

INSIDE: PHOTOSHOP TIPS, CREATING TEXTURES, PLUG-IN ROUND-UP AND MORE

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47 PAGES OF PRACTICAL TUTORIALS

FAKE IT IN PHOTOSHOP

Transform an ordinary image into a fantasy illustration
using the pro techniques in our expert guide p9

USE **PHOTOSHOP** TO CREATE A WHOLE NEW WORLD

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FULL
PROJECT
START
ON P9

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LAYER SKILLS**

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AT A GLANCE

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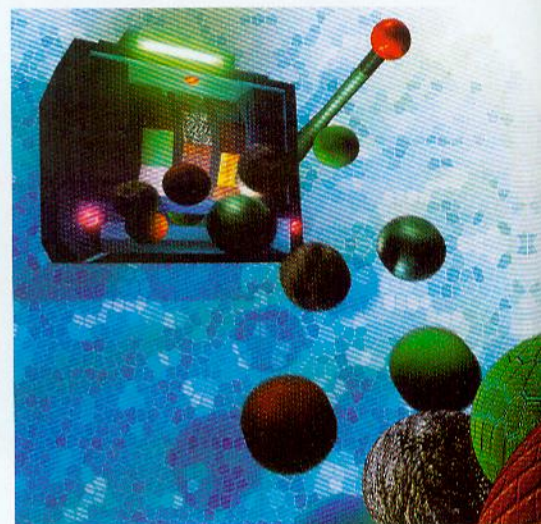
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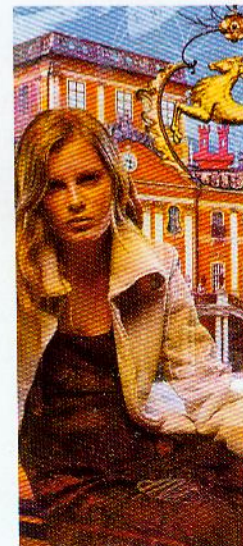
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Rock stars in silhouette, baroque chariots and ornate architecture are all in a day's work for commercial artist Joel

Left: Shrine illustration. Right: Joel Lardner fashion ad.



FULL PROJECT

Create a fantasy illustration from initial shoot to finishing touches with our 47-page guide...

FAKING IT – CHANGING REALITY

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Shooting a background plate for your image requires some careful planning and preparation. Learn the important steps here

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All the files you need to complete this project are on our cover disc. Turn to page 94 for details.

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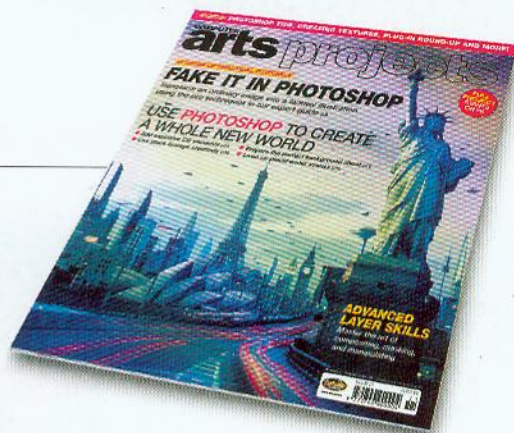
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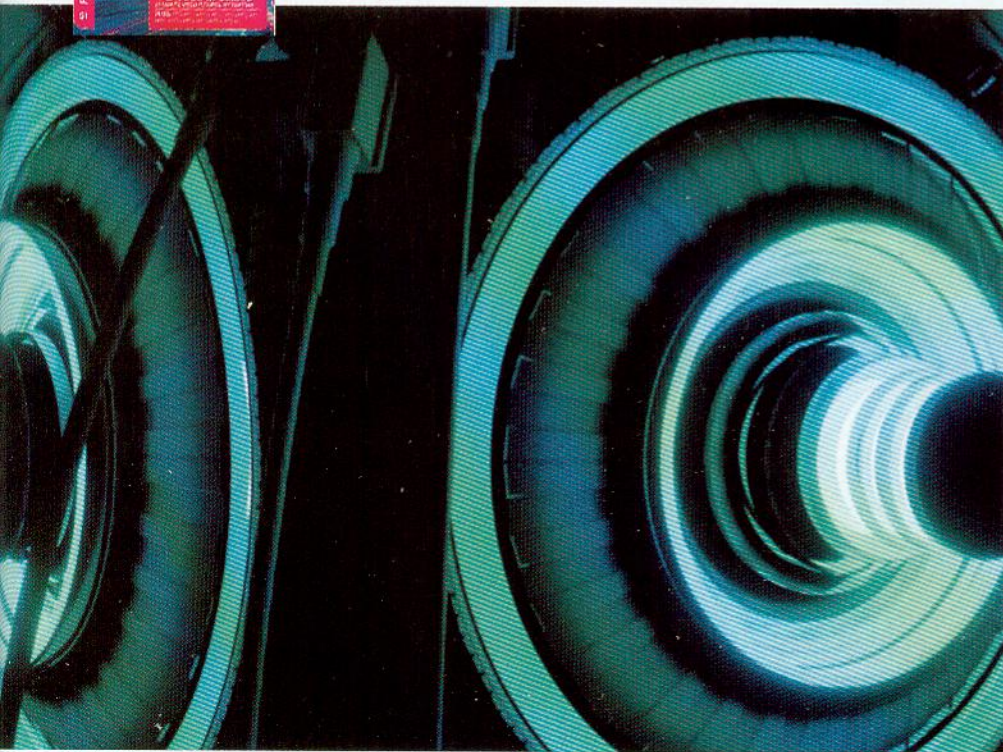
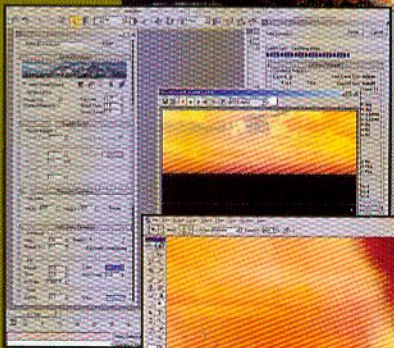
With all the elements perfectly blended, you just need to add some subtle lighting glows and other finishing touches

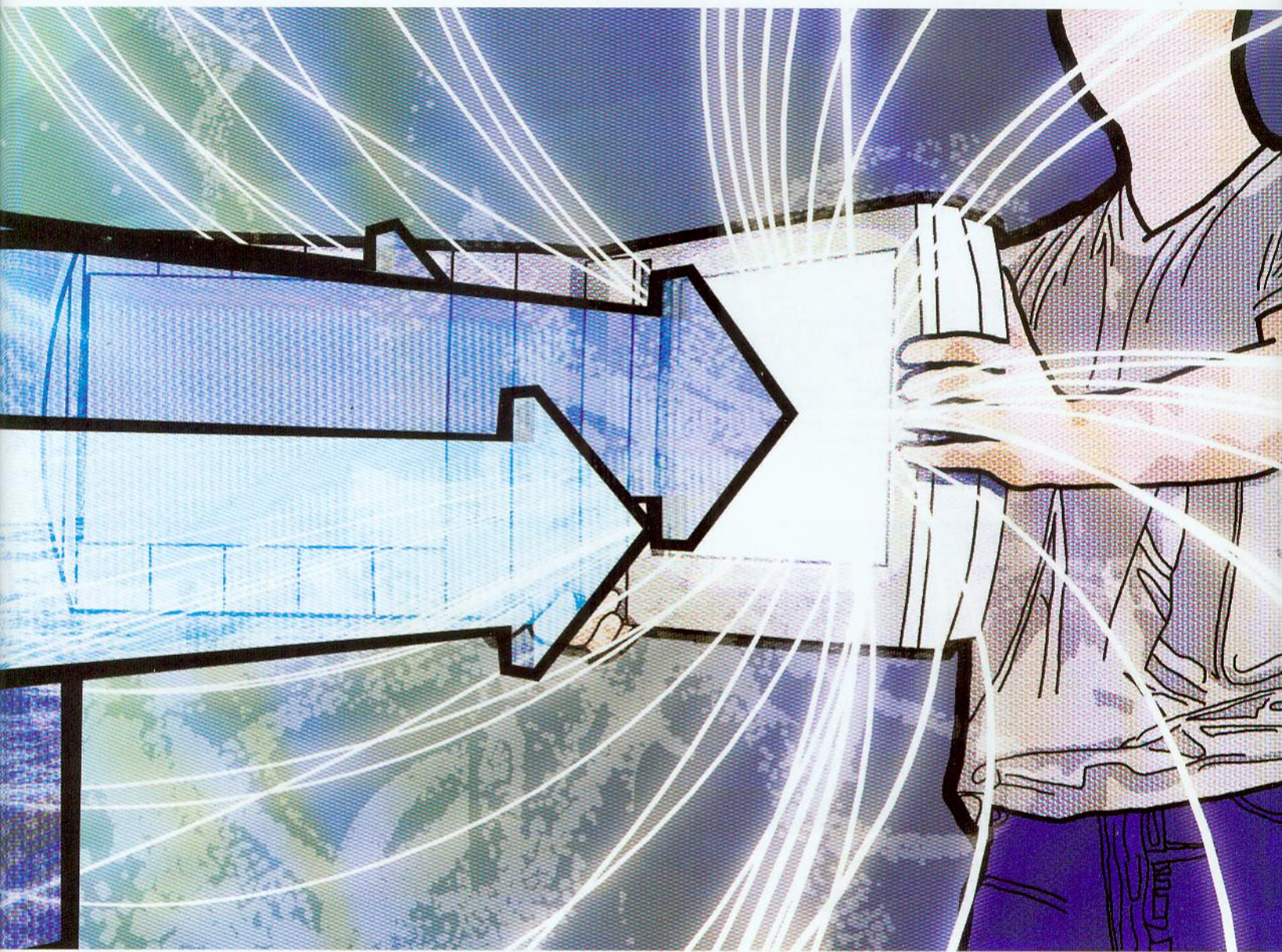


TUTORIAL STARTS ON P9



Take an ordinary digital image of London and transform it into a convincing sci-fi illustration, with the help of some CG elements and expert compositing techniques.





We'll start with the backplates. The brief dictates that we've got to use a shot of a famous skyline, such as London or New York, but, as with any artist, we're going to have to do it on a budget — so we've chosen a London skyline.

Before we even set foot in the city to do the photoshoot, some initial design and preparatory work must take place. We only get one chance to get it right, so initial research into possible shooting locations and environments is essential. Monitoring weather reports and doing preparatory sketches is also important.

After the main shoot is complete, we'll

need to shoot additional elements with similar lighting conditions to make things easier when bringing it all into *Photoshop*. In this first section, we cover the trials and tribulations of shooting and forward-planning. >



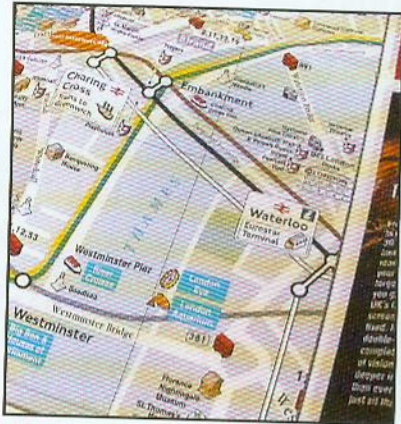
Expertise provided by Pete Draper. You can visit Pete's Website at www.xenomorphic.co.uk or contact him on pete.draper@xenomorphic.co.uk



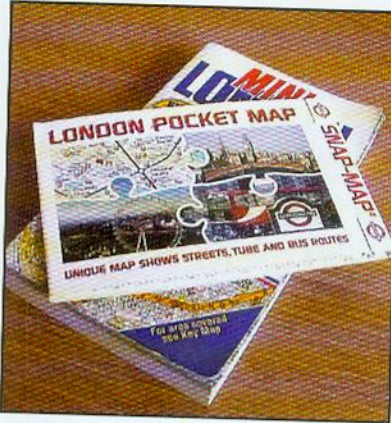
Files on disc
All the components needed to complete this tutorial can be found in the Section 1 folder on the CD.

Part 1: Initial research

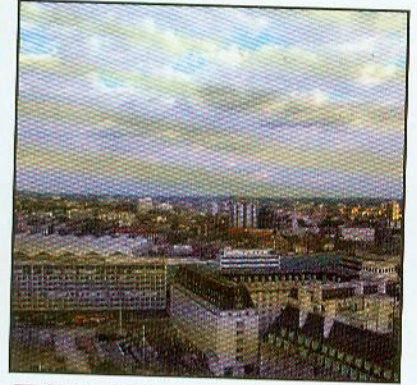
Technically, you should start off with a preparatory sketch, because you can't show the client the rough layout without having chosen a location...



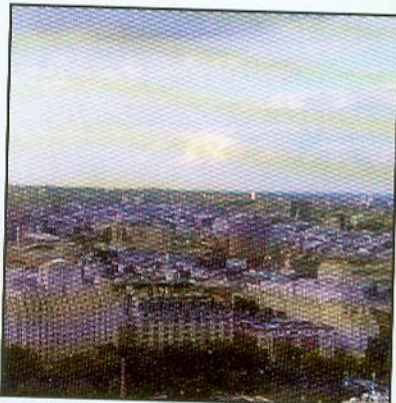
1 You're only as good as your preparatory work, so try to be as thorough as possible. You need to choose a vantage point where you'll have ample time to shoot a range of images, from which you can pick the best afterwards.



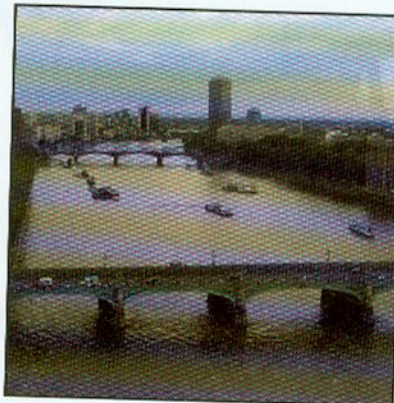
2 Start out by browsing the tourist guides for images of London. Typically, for those who haven't visited this city, you need to have a few recognisable landmarks from film and TV, which clearly identify the city.



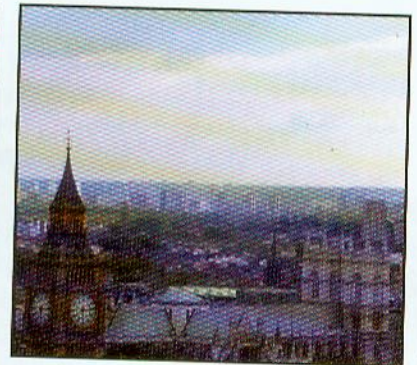
3 To get the best shot of the city and to give yourself the widest range of possibilities, you're going to have to shoot the backplate from a high place. This will enable you to drop a lot more elements into the scene because you'll have a larger working area. It should also make masking things out a little easier due to the scale of the buildings.



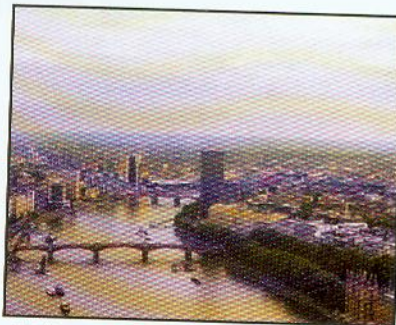
4 Unfamiliar landmarks or buildings, or familiar landmarks that have been shot from an unfamiliar vantage point, will confuse the audience, so you need to choose carefully which buildings will be recognisable from a few hundred feet up.



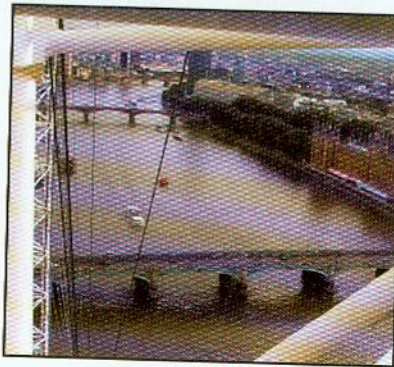
5 The Thames is highly recognisable from any location, and featuring the river will enable you to drop in some interesting effects, such as tidal waves, flooding, impact splashes, flowing water and so on.



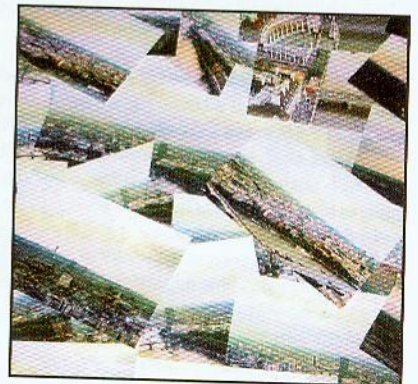
6 Ideally, the skyline will be 'flat' in places, so you can drop in interesting elements that won't detract from more complex areas. You should ensure that prominent 'hero' buildings or landmarks are in the foreground, while there's an open space, travelling out to the horizon in which you can introduce other effects.



7 Keeping these hero buildings prominent narrows down the search for the right location. You need a high vantage point which is publicly accessible, gives you a clear shot of the Thames, has important hero landmarks in the foreground and has a nice distant shot of the horizon that isn't obstructed by buildings.



8 The London Eye is the ideal vantage point for this project. It's high enough to give you a view of most of the city in a single shot. It also gives you ample time to shoot enough material due to its slow rotation speed.



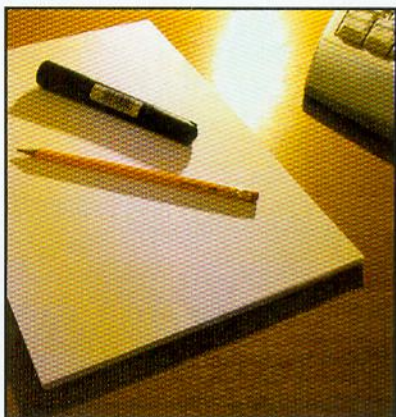
9 As this vantage point enables you to shoot 360 degrees, choosing a specific frame and position is essential so you get it right first time. It's time to plan the full composition.

Part 2: Sketches and preparatory layout

To get the composition right in both your own and your client's minds, knocking out a quick sketch is essential...

Sketch it

Sketches will not only help you to remember what shot you're after when it comes to shooting, but they'll act as a 'dry run' for when you come to put all the images together. They'll definitely save you time in the long run.



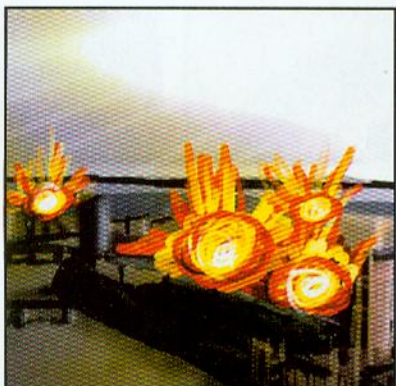
1 If you're producing a commissioned piece, the client has to be kept in the loop right from the start. Therefore, you should get as much down on paper well in advance of the shoot date to ensure you get the right results.



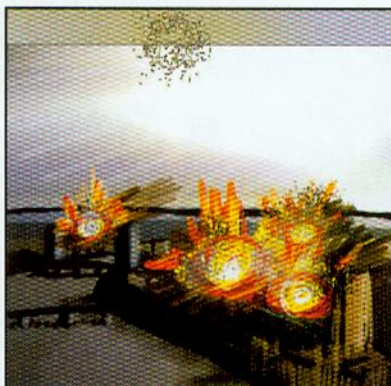
2 Using references from the Web (or other locations, such as brochures or travel guides from your local library), roughly sketch out or trace the terrain, paying close attention to building positioning. This can be done on paper (then scanned into *Photoshop*) or, if you have a tablet, directly onto a *Photoshop* canvas.



3 Note the direction of the main key light and time of day. Due to pollution and air density, the entire 'feeling' of the scene will change depending on what time of day the image is shot. Try to determine the sun's position and the direction of the shadows it'll cast.



4 With the desired shot laid out, you can now add some mock-ups to clearly state where each 'fake' element should be introduced. Start with some explosions dotted around the city. Position these behind hero buildings so that they emphasise, rather than obstruct, them.



5 At the point of each impact, pencil in some debris to show that the impacts have some force and that surrounding buildings are blown to bits. Pay attention to the location of the explosions and create suitably sized debris in the foreground and background.



6 To give a sense of motion to the scene, the initial meteorite's trails should be added, which hints at the fact that the image was taken 'off the cuff'. The trails should be relatively straight to give the impression that the image was taken immediately after the impact – in other words, the smoke trails would not have had time to be distorted by the wind.



7 Extra smoke and fires can be added around the scene to suggest that there have already been a few small impacts. Adding these effects to buildings creates a little more drama and a sense of scale.



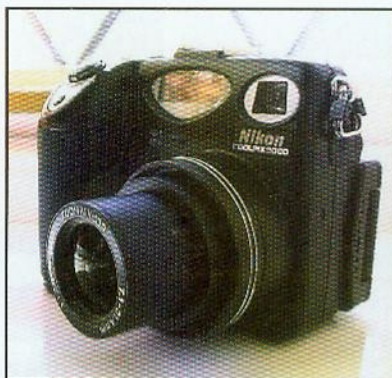
8 The reason for all this destruction is that creatures from another planet are attacking Earth. The invading planet should be prominent in the sky, with only its illuminated side showing. Again, the lighting over the planet's surface should match that of the overall scene.



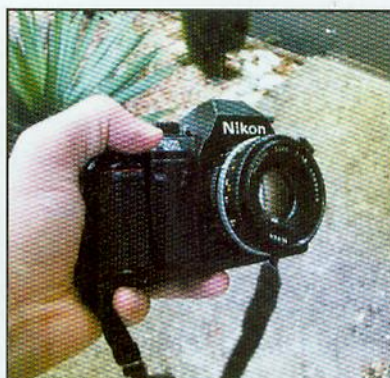
9 Because of all this destruction, the river is going to have some quite dramatic effects on it, so pencil in some waves. The bridges over the Thames and the low banks will be affected by the impact of the waves. Finally, run a gradient wash over the image to suggest the final colouring of the scene. Okay, it's not exactly a Van Gogh, but it'll give the client an idea of what the final image will look like, and help us to visualise each shot we take. ➤

Part 3: Preparing for the shoot

Don't leave anything to chance. Ensure that you've got everything sorted out well in advance, from charging up cameras to roping in your mates to lug around the equipment...



1 First of all, you need to determine how big the end result will be. If you need print resolution, then a simple point-and-shoot compact camera is not going to give you the quality you need. You'll need to source either a digital camera with a high megapixel value (of around 5 to 10), a digital back SLR, or a standard film back SLR.



2 Because digital back SLRs are extremely expensive, especially with a high megapixel value, going the traditional film route sounds more feasible. However, if you have access to a digital camera, take it with you as a back-up. Carry polarised lenses with you as well, so you can reduce glare from reflected water as necessary.



3 DV cameras are also handy to take with you, so you can film the entire layout of the scene, to capture additional information such as lighting and third-party elements that may affect the scene.



4 Light probes (a simple reflective sphere) can be exceptionally useful to get an entire (virtually) 360-degree panorama of the scene, which will illustrate the sun's position even if it's off frame. This is also handy to have if you're going to shoot additional footage elsewhere (or produce CG elements to drop into the scene) and want to get the lighting as close as possible.



5 Charge or change all your batteries and film well in advance. This may sound obvious, but when it comes to the crunch, you've only got a certain amount of time to get the shot right, so you don't want to waste time changing batteries (or forgetting them completely) or running out of film.



6 Think about the lighting conditions at the time of day. If possible, get yourself to the shooting location the day before and see what the light's like. If it's not to your liking, then you can plan an earlier or later shoot.



7 As this shoot is of an exterior location, monitor weather reports well in advance, so you've got a good idea what the lighting and air pollution (which will de-saturate your colours) is going to be like on the chosen day. If necessary, change your shoot day. There's no point in making the journey and shooting footage if it's going to be useless.



8 Plan the journey well in advance, taking into account transport issues, public holidays, accidents, acts of God and so on. Never leave anything to chance on the day and ensure you always add on an extra few hours so you get there in time. Better to be early than late.



9 Rope in your friends to help with the heavy work. This may sound cruel, but there will be a fair amount of equipment to lug around. One thing you can leave at home is the tripod, because you won't have the time or space to set it up in an area populated with around 25 other people.

Part 4: The background plate shoot

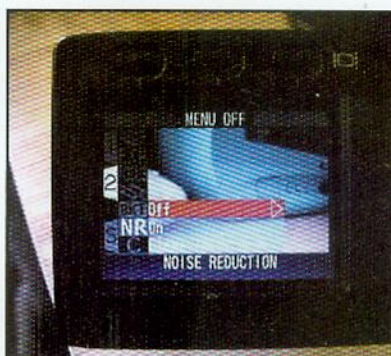
Today's the day. With all your equipment and 'helpers' in tow, weather reports monitored, transport primed, nothing can go wrong. Or can it?

Panoramic view

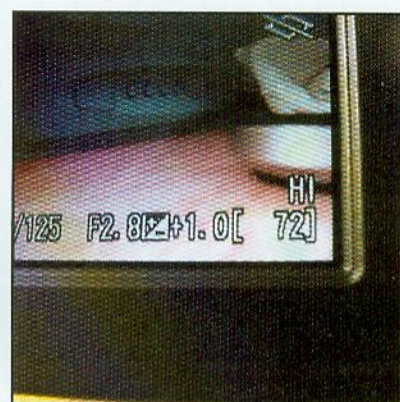
Don't shoot a panorama just to increase the canvas size, because this will result in a larger field of vision. However, if you have no other alternative, shoot the single frame, zoom in, then shoot the panorama going up to (and just over) the extremities of the previous frame.



1 We decided to go for a shooting time of around 6pm. During August, this meant that the sun was low enough in the sky to bring out the colours, but not so low as to warrant long exposures and the risk of excessive blurring due to camera motion. Unfortunately, by that time on the day of our shoot, the sun had vanished behind a layer of cloud.



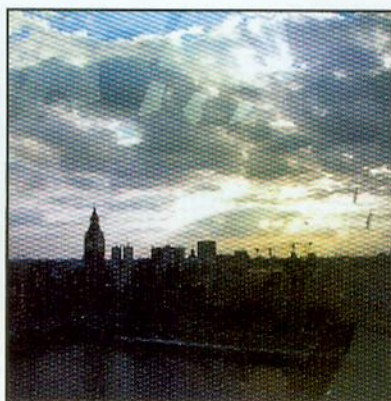
2 If you're using a digital camera, ensure that the quality is cranked right up and that the size (canvas) is set to the highest setting possible. Turn off any camera-processing, such as sharpening, because you can do that in *Photoshop* afterwards. Set the white balance by holding a piece of white card in the scene you're going to shoot. Once the balance is set, you're ready to go.



3 If you've got the storage space, use RAW or TIFF formats because there won't be compression artefacts. If this isn't possible, use a JPEG setting with the highest quality to reduce artefacts, especially if your camera generates a lot of dead pixels.



4 Because of the way the capsule is constructed, you're bound to have some distortion of the image in some of the pictures. The best way to avoid this is to position the camera around the mid-section of the capsule so the lens is virtually face-on to the capsule wall. If you view it at another slightly perpendicular angle, you'll get a distorted image.



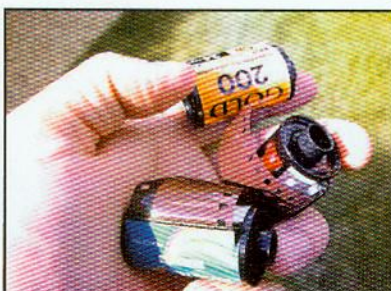
5 Be aware that there will be up to 25 people in the capsule with you, so you'll not only have to jostle for space, but will also have to contend with unwanted reflections in the windows from people moving around.



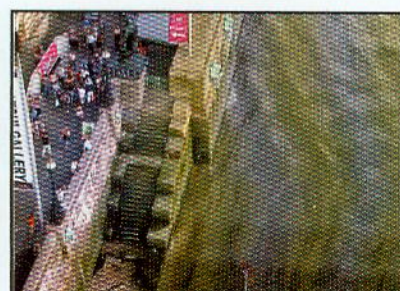
6 Take as many pictures as possible of the same frame, even if you have to take an exterior shot from one end of the capsule and then from the other end. Any reflections and dirt on the window (which will be reduced due to focussing on infinity) can be painted out by merging two of the resulting images together.



7 Take several shots of the same frame with different exposures, especially if you're using a standard film camera that doesn't give you the option to preview images. Even if you have a digital camera that enables previewing, don't waste time meticulously scrutinising your images; make a note of the old setting, change to a new one and shoot again.



8 Even though you need to take a lot of shots just to get that one perfect image, don't go mad and waste all of your film. If your supplies are limited, wait until you get to the desired position and then take your shots based on the sketch you laid out. Additional frames are useful though – they may come out better than you expect, and could be good enough to drop into the final composition.



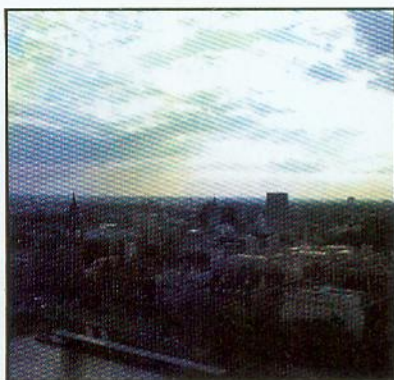
9 Our ride on the London Eye is over and we should now have enough to work with. We've made notes during the shoot, especially noting the lens size so we can replicate this later on if required. The shoot was slightly disappointing due to the sun disappearing behind the clouds, but all was not lost because we can sort out any problems later in *Photoshop*.

Part 5 : Additional source material

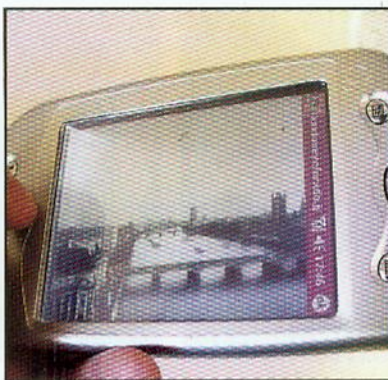
Now you've got the backplate images, you'll need to shoot extra material to simulate tidal waves and meteorite impacts...

Take notes

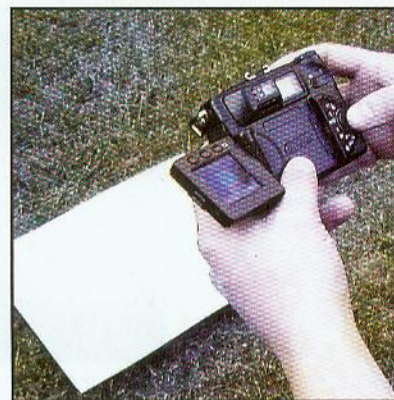
Make notes during the shoot using a DV camera and/or dictaphone. Don't be afraid to look like an idiot talking to yourself — you're on a job and you have to be professional about this, and you need as much information as possible. Note down camera settings, lighting positions, time of day, light meter settings (if available) and so on. This will provide you with all the information you need when you shoot the additional elements to be composited onto the background, therefore reducing any need for post processing, tinting or painting to make the images match.



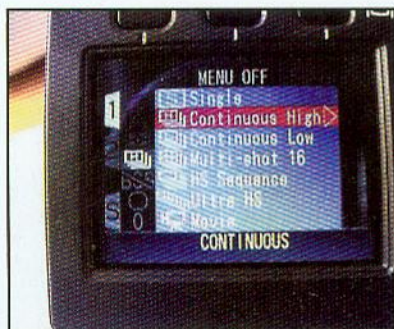
1 Because our backplate turned out to be shot in diffused lighting (thanks to the cloud cover during the shoot), any additional materials should also be shot in similar lighting conditions. This can be solved by either waiting for the same conditions, or by creating a diffused lighting situation in a studio.



2 As we're attempting to match pre-shot footage which is currently undeveloped, it's essential to have the digital references that we also shot and the sketches we made earlier. This way we can (roughly) line up the horizon with the sketch and digital reference, so we don't have to use deformations to create false perspective later on.



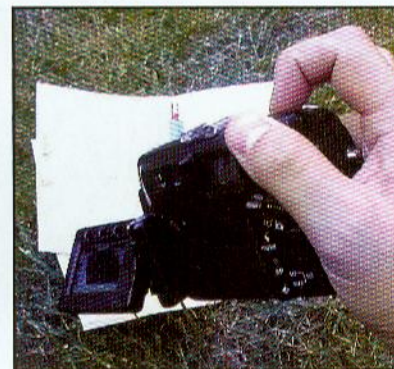
3 At this point, you can use a digital camera, because these elements aren't going to be full-frame but used as smaller elements within the one large image. Again, ensure that the camera settings are correct as before, and adjust the white balance if possible.



4 The main reason for using a digital camera this time is due to the sheer number of pictures needed to ensure that some match up with the backplate. If your camera has this feature, it would be a good idea to enable multiple shots — your camera takes multiple pictures with a split-second between each one, so you'll have plenty of images to choose between.



5 As some elements in the final scene will be small in comparison with the overall size of the canvas, using a DV camera (which, via *Premiere* or equivalent can extract DV stills at PAL res 720x576) can also help because a single frame could be extracted to be used in the main composition. This is especially useful if you don't have any help in producing these shots, because you can just tripod-mount the camera and let it run.



6 Using the notes taken at the time of the background shoot, it's possible to recreate similar settings with a different camera. The main thing to take into consideration is the lens and shutter speed set-ups. The lens we had on the film camera was a standard 50mm lens.



7 The majority of images were shot with a 1/250 shutter speed, so these settings should be mimicked using your digital camera. However, they can be tweaked later on in *Photoshop* to sort out any differences in brightness, perspective and colour variations.



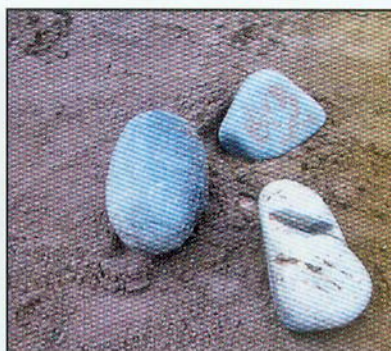
8 As luck would have it, the days following the shoot had the same lighting conditions. Using the notes that we took on set, including lighting references with the light probe, a suitable location was found to provide all our requirements for the additional photography: a nearby beach, which we visited at around 6pm.



9 Once you've found a location and setting, you need to set up the environment so that your impacts make the desired debris trails and dust clouds. Although it's not exactly rocket science, it does take some initial test runs and forward-planning. The most important thing is to ensure that the sun is in the right position and occluded by cloud as in the background plate shots.



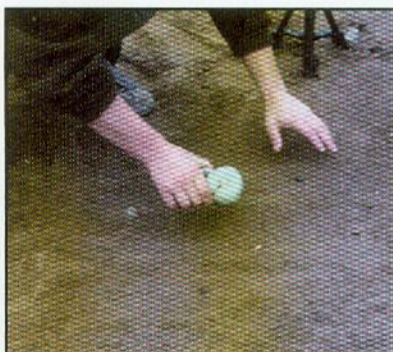
10 The first thing to consider is the positioning of the specific debris impact on the initial sketch. The majority of our impacts are situated on the right-hand side of the canvas with meteorite trails coming in from the left. However, we want to shoot everything pretty much in the centre of the frame, just in case any of the flying debris goes off frame.



11 The impacts are created using a very quick and dirty method – simply throwing large rocks into bodies of sand. It's not as technical as the effects production for *Armageddon*, which involved multiple pyrotechnics to create the initial impact blast and a resulting shockwave, but it suits our needs and budget.



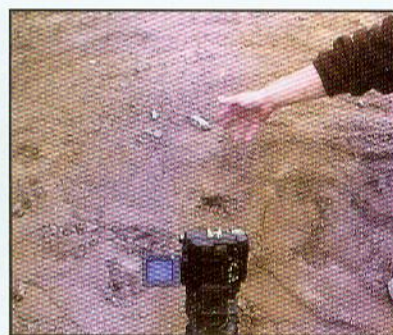
12 However, just throwing a rock into sand isn't enough. Most sand on beaches is quite compact – even the dry loose surface sand will only go down so far, so to create a large debris cloud you're going to have to get your hands dirty and create a very loose patch of sand.



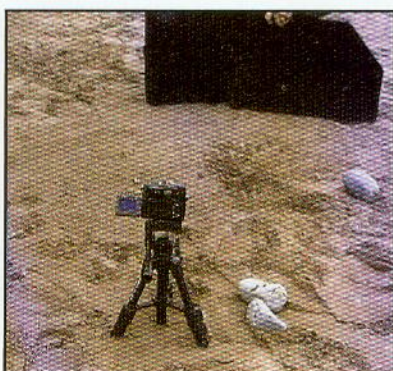
13 Try to create layer upon layer of different materials, such as dry sand, compacted wet sand, dirt, gravel, and small bits of debris that are lying around which could act as parts of buildings when displaced. Smooth this over with a thin layer of surface sand and you're ready to take your first shots.



14 Before these pictures are taken, ensure that the focus is locked on your tripod-mounted camera. Create a marker in the centre of the frame to automatically focus on, or use a tape measure to measure the distance from the camera to the focal point and enter these settings in your camera's manual focus feature. This will also give the person throwing the projectiles something to aim at.



15 Once the focus has been set, perform a few motion blur tests by taking a shot of someone waving their hand in front of the camera at roughly the same speed you would expect the debris to travel. If the image is too blurred, adjust the shutter speed and try again. Take a few sample pictures to ensure that the exposure is set up correctly. Adjust it if necessary.



16 Typically, this is a three-person operation: one to take the pictures, one to hurl the projectiles, and one to hold something to mask out the debris from the background (unless you can devise some sort of screen, although for some impact shots the background can be simply painted out).



17 The shot should be taken immediately after the initial impact. If all goes well, you should have a shot that shows the debris being ejected from the surface, occluding the projectile. In addition, you may want some nice crater effects to drop in later on, so carefully remove the projectile (or you could paint it out later on) and shoot the scene again.

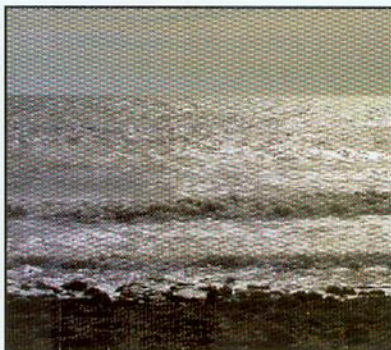


18 Reset the scene by rebuilding the surface again. Unfortunately, you'll need to do this every time to get a fresh surface to play with, otherwise you'll get an image where it's difficult to paint out the non-relevant parts. Also, the debris may not be ejected outwards as desired due to compacted areas. Take multiple shots with different projectile impact angles to create a variety of impact debris trails.

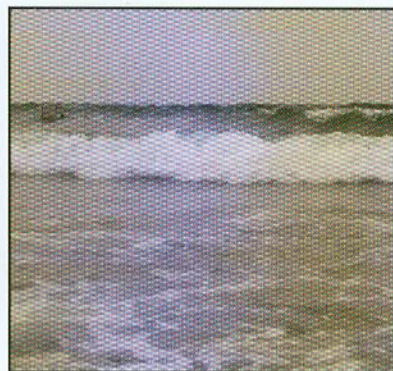
Additional source material continued...



19 With the debris shots in the can, it's time to move onto the last batch of photographs. To create the effect of flooding water flowing down the Thames, you can use images of shoreline surf and overlay them on your canvas.



20 As before, ensure that the sun is in the right position. It doesn't matter if it's directly on the opposite side of where it was in the other scenes because the image can be flipped in *Photoshop*. However, make sure it's not dead ahead, or you'll have to do a lot of work later on to remove the glare and then light the scene differently using painting.



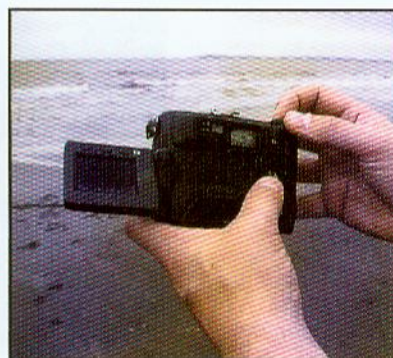
21 Don't be afraid to get your feet wet. To get shots of decent-sized waves you'll more than likely have to get into the surf. For extra stability, and to ensure that you don't fall over and soak the camera, a high-legged tripod is ideal to keep the camera high and dry.



22 If required, shoot some extra foamy surface shots so you can add these to the trailing end of the wave once it's been composited onto the backplate with the other waves. This will give the impression that the surface has been churned up by the white water.



23 Don't worry about third parties getting in the way of your perfect shot. People can be painted out in *Photoshop* easily, but try to ensure that unwanted reflections are kept to a minimum because they're harder to remove.



24 This type of water flows relatively quickly so you'll need a fast shutter speed, preferably the same as the debris impact shots so that the motion blur and exposures match. If the camera has been set up with the correct white balance settings and the lighting conditions haven't changed, continue to use these settings to keep things consistent.



25 Referring back to the sketch, note where the bridges are and at what angle they are in relation to the position of the sketch's viewpoint. Images of waves travelling inward should be taken using these same angles, so that white water can be positioned around the base of bridges and made to appear as if they're going to flow over and destroy them.



26 Continue shooting the waves, paying close attention to the angles of the inbound surf in relation to the positioning and angles of the sketch of the river. In addition, shoot some extra white water at relatively close proximity so you can use this to paint in splashes around submerged river boats and overflowing waters if desired.



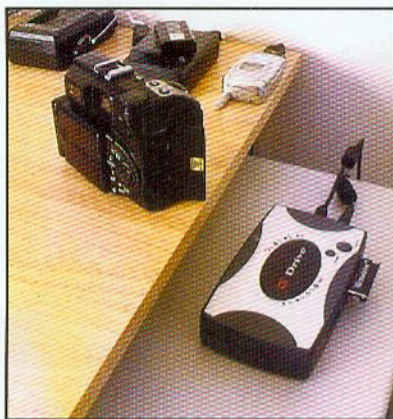
27 If you've introduced some water impact shots into the initial sketches, get someone to throw a few rocks into the sea at various distances from the camera to create decent-size splashes, suggesting a big impact. If you didn't do it on the day, ensure the lighting conditions are the same. This shot, for example, would be very difficult to introduce into the main image.

Part 6: Development and scanning

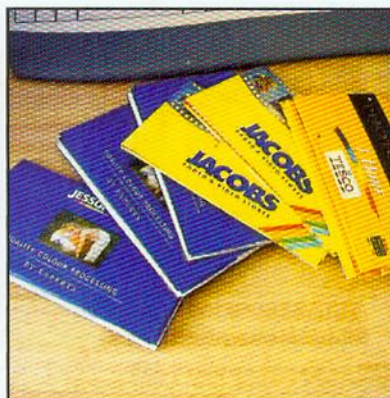
With everything now shot, it's time to send the film off to the developers...

Film quality

Use good quality film and development if you don't have negative scanning capabilities. Most places offer a development-only service, but getting the pictures onto paper costs only a little more, and can be a great help when choosing the right image.



1 Now you need to get the images onto the computer so you can start working with them in *Photoshop*. If you've used a digital back SLR or digital compact to shoot the backplate shots, then simply transfer those shots to your computer.



2 If you've used a film-back camera, drag your tired backside down to the local developers. Most developers on the high street will print your photos in about an hour, but even though some of them are quite meticulous, the majority of the development process is automatic.



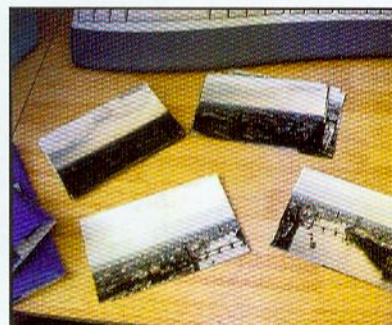
3 All you really need is the negatives, because they can be re-scanned satisfactorily. However, it's always good to get prints done, which can be used to preview the images and choose the best ones. Film scanning can be a lengthy process, and you don't want to be doing it with every single negative just so you can choose the right image.



4 You can mark the photos to show the areas that need cleaning up. If you don't have access to a scanner, most developers nowadays will put the images onto CD for you for a little extra cost – if they have the option, try to get the images as large as possible so you've got a lot of canvas to work with.



5 Don't be afraid to be critical of your work – at the end of the day, all you need is one good backplate, so any other images can be thrown aside. If you feel that an image is just not right, or has a glare and/or reflection of people from inside the capsule that can't be fixed or can't be used to save another image, just bin it.



6 The image you're looking for should be the same as the sketch that you produced right from the start, so separate them into piles to make life easier when making comparisons. You should have approximately four piles: ones in the frame with exposures at 1/250, the same with 1/125 and 1/500, shots outside the frame at 1/250, and the same with 1/125 and 1/500.



7 Once you've seen all these different exposures, it'll be immediately obvious which exposure is best, so discard the unwanted under- or over-exposed images. However, bear in mind that you can use the scanner software to fake additional exposure if you're using negative scans.

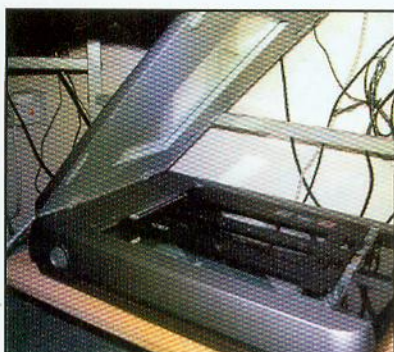


8 Narrowing it down further, discard any images which don't have the horizon line level. A slight deviation is fine, because the image can be re-cropped and rotated in *Photoshop*. However, anything totally skewed will have to be binned or re-painted, because when the canvas is rotated, the corners will be blank.



9 Following a process of elimination, we've found our desired image. Granted, it has a few things wrong with it – such as unwanted marks and scratches, glare and dirt – but these can all be painted out in the clean-up stage. So fire up the computer and warm up the scanner.

Development and scanning continued...



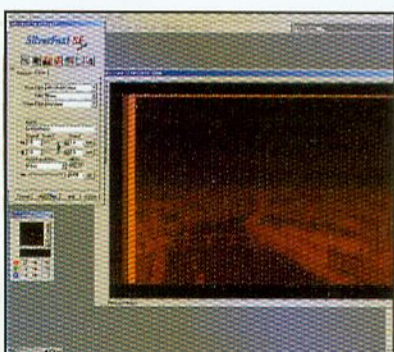
10 We're using an off-the-shelf semi-professional scanner to get comparable results to what the average home user would get. Although the scanner comes with its own scanning software, unless you have the option to get down and dirty with all the settings, it's best to use software that's tailored for professional use.



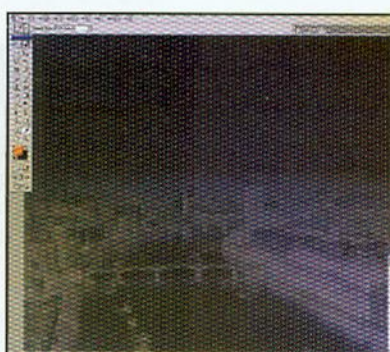
11 In this case, we're going to use SilverFast SE with our scanner – an Epson Perfection 3200 Photo – as it offers all the settings needed to tweak the negative scan. If you don't have this application, a simple negative scan with the bundled software will suffice, because you can tweak everything in Photoshop later.



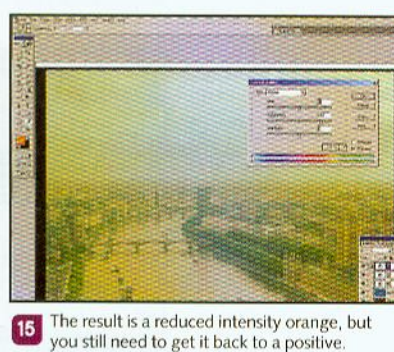
12 If you have the ability to do so, preview-scan the negative and convert it to positive. Using the print as a reference, tweak any exposure as necessary to brighten (or darken) the scan, and scan at the highest canvas and DPI possible. You can bring this back down in Photoshop later.



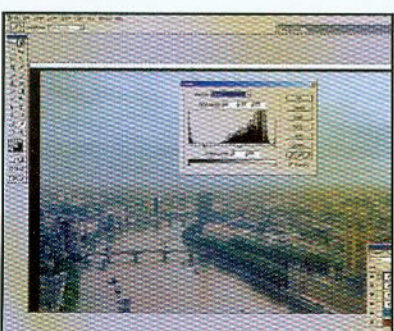
13 The problem with negatives is that there's a high orange cast right across the image. This needs to be removed to get the best image possible. If the negative-to-positive scan results are not to your taste, scan the negative as a negative as high as possible, including part of the border, and bring it into Photoshop.



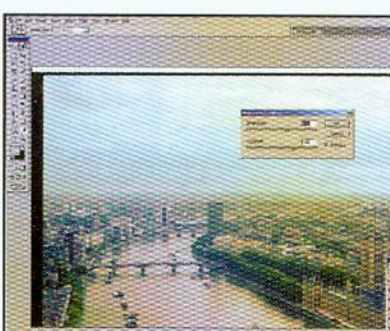
14 Point-sample the orange border and create a new layer. Flood-fill the layer with the orange and invert the colour, either by hitting Ctrl-I or by adding an Invert adjustment layer and setting the clipping group to the colour layer. Set the opacity of the inverted orange layer to 50 per cent and the layer blending type to Colour.



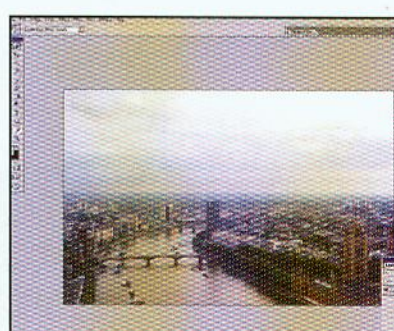
15 The result is a reduced intensity orange, but you still need to get it back to a positive. Therefore, either collapse down and invert the image, or add an Invert adjustment layer. You've now got a positive image, albeit quite desaturated. To get around this, perform Auto Levels on the image by adding a Levels adjustment layer and hitting Auto or flattening the image and hitting Shift-Ctrl-L. Add a Hue/Saturation adjustment layer or crank up the saturation of the image.



16 Depending on what film type you used, the entire hue of the image can be changed a little. We used Kodak Gold 200, which has resulted in a green hue to the scene. Instead of modifying this using Hue/Saturation, which can make matters worse, add another Levels adjustment layer and reduce the amount of green. Don't go too mad though, or the scene will appear too red.



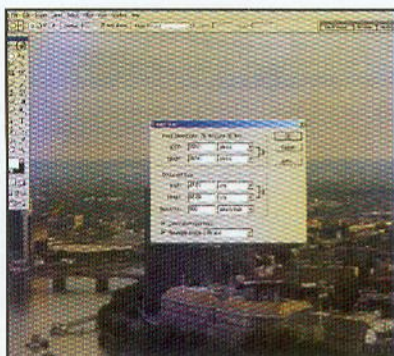
17 Depending on the exposure, you may wish to adjust the brightness and contrast of the image. If so, either collapse down or add a Brightness/Contrast or Curves adjustment layer and amend the contrast so that the whites are whiter (without being blown out) and the darks more intense (without occluding detail).



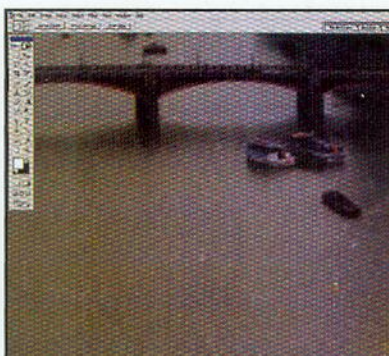
18 Crop the image down to get your adjusted image backplate. It may still seem to be too dark for your tastes, so clone the background plate and set the copy's layer blending type to Screen. This will brighten up the image nicely (if it's too much, reduce the opacity of the layer), so flatten the image and save it out ready for cleaning.

Part 7 : Cleaning up the background plate

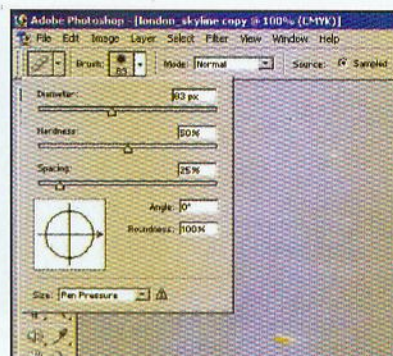
The next step is to clean up the image itself so that you've got a perfect image to work from. You can then start adding pre-shot elements to the image...



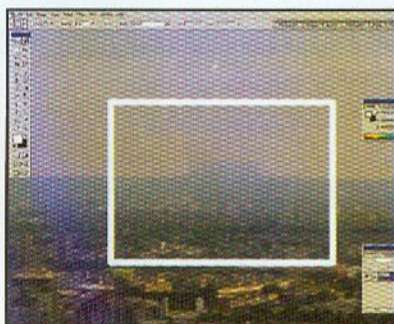
1 As the scan ends up being an exceptionally large image with a very high DPI, you'll need to amend the size to make the image more manageable in *Photoshop* and to reduce the amount of artefacts visible on the canvas. Go to Image>Image Size and adjust the width and height of the document size – around 470x300mm is sufficient – with a DPI of 300.



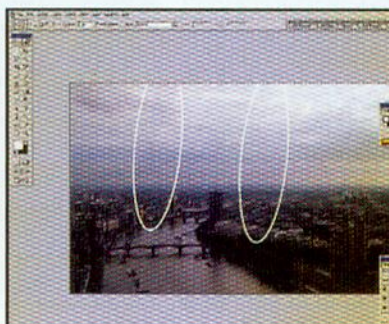
2 Open up the London_skyline_cmyk.jpg file included on the cover CD to see the end result of our scan and tweaks. As you're working on a very large canvas, zooming right into the image will result in the imperfections being lost. Try to work with the majority of the image on screen, so that you can see any changes in image intensity immediately.



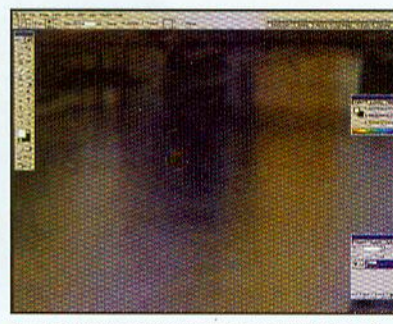
3 To paint out the problem areas, you'll need to make heavy use of the Healing Brush tool. This is a new feature of *Photoshop 7*, which is not dissimilar from the Clone Stamp tool, apart from it (in layman's terms) blurring the background and applying and blending the new texture to it. Because of the blurring, using a harder brush tends to yield better results.



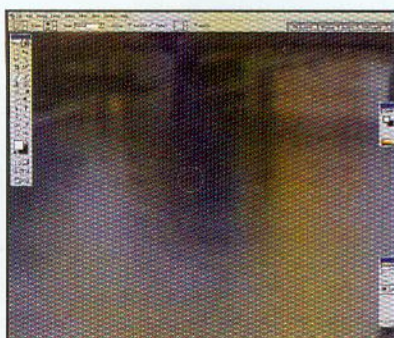
4 There are, however, areas where this tool isn't appropriate – areas of sharp contrast, for example, will result in unwanted results, with edges being blurred in an attempt to blend the two textures together. This can be avoided by careful masking out, or, if all else fails, going back to the Clone Stamp tool on a separate layer and manually blending the two together.



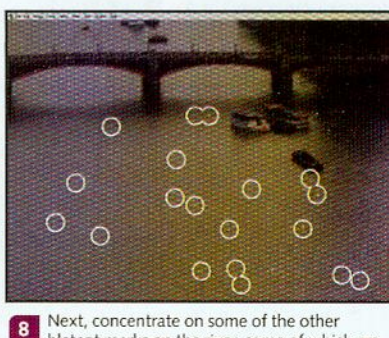
5 Because the cloud covered the sky and you'll need to drop in some additional elements onto this section later, don't worry about cleaning up this area. This is a blessing in disguise because, if you look carefully, there are dark and light vertical bands visible on the clouds caused by reflections of the other people in the capsule.



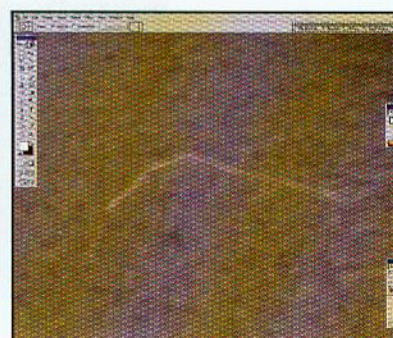
6 The main area you need to concentrate on is around the river, because this is the part with the most visible problems (apart from the sky). Starting off with the large yellow mark just underneath one of the bridges, select the Healing Brush tool and create a relatively hard brush with a size big enough to cover the sample area, but not so big as to stick out of the bridge's reflection in the water.



7 Sample an area above the yellow mark with roughly the right intensity by holding down Alt (on the PC) and painting over the yellow mark. After a slight calculation, the background will be blurred and blended with the sampled area, therefore removing the offending mark.



8 Next, concentrate on some of the other blatant marks on the river, some of which are highlighted in this screenshot. Even though there's little contrast difference, try to pick samples from adjacent points and/or areas of similar illumination so it all blends together nicely. Be careful when working around the underside of the boats to avoid any contrast smearing.

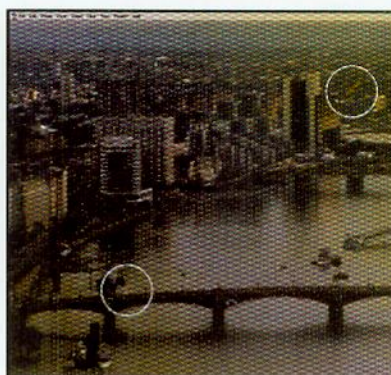


9 With all of these minor points cleaned up, move onto the tougher areas. In the bottom-right of the river there's a large hair mark that needs removing, but as it's a large shape, using the Healing Brush will require multiple samples. Alternatively, you can use the Patch tool to fix this awkward shape.

Cleaning up the background plate continued...



10 With the Patch tool selected, draw a rough outline around the hair line so it fully encompasses the line and some of the exterior water surface. Drag the resulting selection area vertically to an area of similar intensity. If all is well, this new area should be automatically blended to occlude the hair. The result may have some visible repeating areas, so use the Healing Brush to remove these.



11 With the spots removed from the water, you can now concentrate on the main problem areas. The additional yellow lines, although similar to the one we initially removed, are situated in areas where simply using the Healing Brush or Patch tools would be of no use.



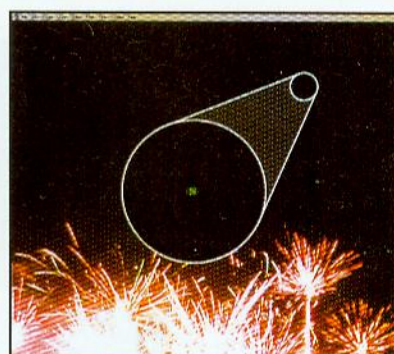
12 Use the Rubber Stamp tool to clone an area of the image and place it over the top of the offending area. As this tool can be used on a different layer, create a new layer and sample an area close by to the large yellow mark, and paint over it with a soft brush. As you're on a separate layer, you can erase any unwanted cloning. Use the Snapshot tool again to break up the fix in case any repeats are visible.



13 The final thing to sort out is the large yellow mark that goes across the bridge. As with the other yellow marks, this is present in the negative (and thus present in the developed picture and in this scan). Because it goes across the bridge's barriers, into the water and across the bridge, you'll have to cut and paste part of the bridge and surrounding areas to rebuild it.



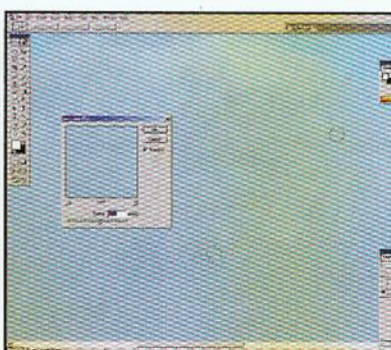
14 Using the Lasso tool, select an area on the other side of the posts on the bridge, and copy and paste the selection onto a new layer. Setting the layer's opacity to 50 per cent helps to line up the vertical barriers on the bridge. Set it back to 100 per cent, and erase around the edges to blend the two layers together. Finally, merge the two layers back together.



15 Not only does the film scan need cleaning up, but the chances are that any digital shots will require cleaning too. With most digital cameras, you're bound to get one or two dead pixels in your images. These are most visible in shots with little light and longer exposures, and they'll need brushing out if they're too visible.



16 Alternatively, take a shot with your camera in a darkened room or with the lens cap on. This will result in a black image with just the dead pixels visible. Next, take this image and place it over the top of the original in a new layer.



17 Next, using the Magic Wand tool on the dead pixel layer, select the black background, then invert the selection to select just the dead pixels. You can then feather and offset the selection and paste adjacent pixels into the dead pixels' places, or simply Gaussian Blur the dead pixels on the original image to blend them in so they're no longer visible.



18 And here's our final image, with the rest of the background cleaned up using the same techniques. To top it off, we've duplicated the background layer and screened it again to brighten it up a bit. If we've done our job properly, no extra dirt should show up, and the dirt that was there should no longer be visible. The image is now ready for adding our processed effects. **cap**



With the background all ready to go, you can now start dropping in some computer-generated material. CG can be used in areas where it would be difficult to generate real-world plates, such as explosions and meteorite trails. First, we're going to show you how to replace that boring sky.

Subsequent parts will explain how to add the invading planet, create realistic explosions, incorporate the debris shots and perfect the meteorite trails. We'll round off this section with a bit of cleaning and polishing. >



The rendered sky in this section is generated in DREAMSCAPE 2.0, price \$595. For more information on this product, visit:
[w] www.afterworks.com or
[w] www.turbosquid.com



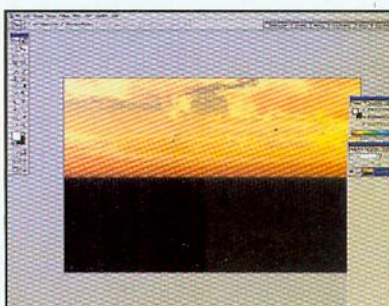
Files on disc
All the components needed to complete this tutorial can be found in the Section 2 folder on the cover CD.

Part 1: Replacing the sky

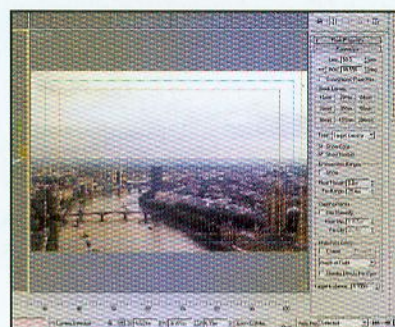
Later on, the approaching planet will be dropped into the background of the image, so you need to prepare the sky for its fiery glow...



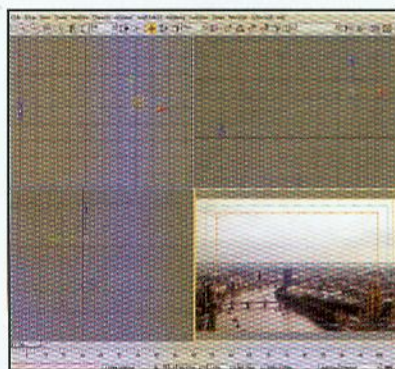
1 The main reason for replacing the sky is that we can't actually see any sky at the moment – just cloud. We also want to simulate a source of illumination from the rear of the planet as well as add some sunlight.



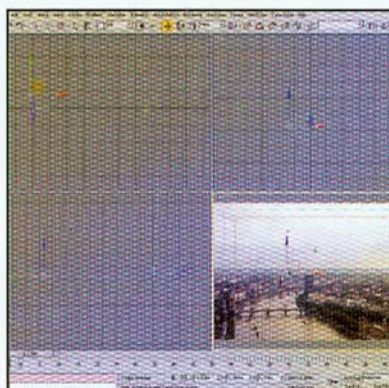
2 Because we want more than one source of light, we've used CG clouds. It doesn't really matter which cloud generation software you use, as long as it gives you the option to include multiple key light sources. We're going to use Dreamscape 2.0 in *3ds max*. However, if you don't have this software or access to demos, a rendered frame of the cloud is provided in the Section 2 folder on the cover CD.



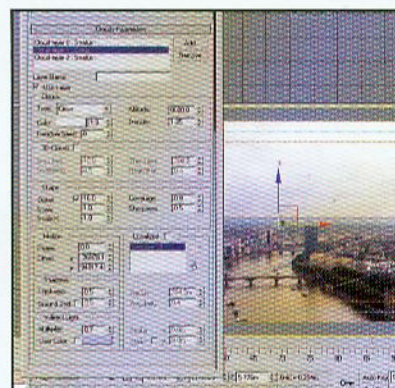
3 Using your notes from the shoot, the camera lens size can be emulated within *3ds max*. Create a camera and position it so that it's just above the horizon, and set it to the desired lens size – in this case, 50mm. Using the backplate on the background enables you to line up the horizon to ensure your rendered sky's horizon lines up with the backplate.



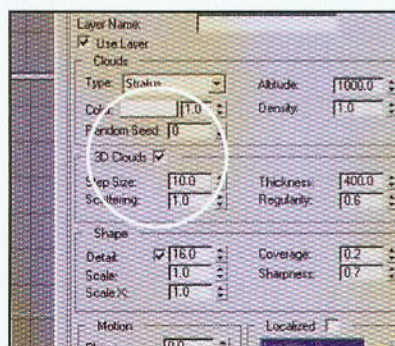
4 Within this plug-in for *3ds max*, you can design your own cloud structure and light it as desired. In this scene, the main key light, which is tinted slightly blue, is situated off to the right, as it is with respect to the camera's position in the original backplate.



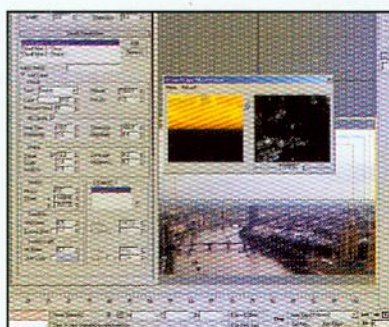
5 An additional light is also positioned low down in the horizon to simulate the backlit clouds, thus creating the glow from the planet that we desire. This light is tinted orange to create the intense yellow/orange glow we want.



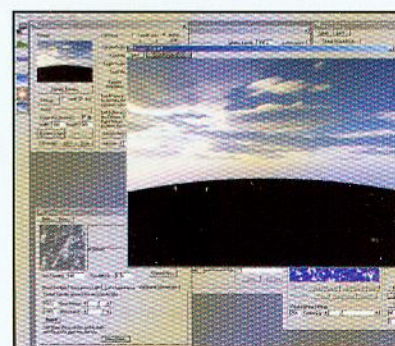
6 In the Dreamscape environment menu, three cloud layers are designed: one low-altitude stratus cloud at 1000, one medium stratus cloud at 5000, and one high-altitude cirrus cloud formation at 8000.



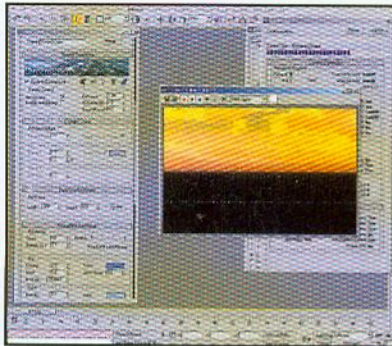
7 These different cloud formations at different altitudes should help break up the cloud patterns and make the sky scene appear more realistic. As the low altitude clouds are going to be closer to camera, you can make these 3D clouds, but be warned that this can increase rendering times vastly.



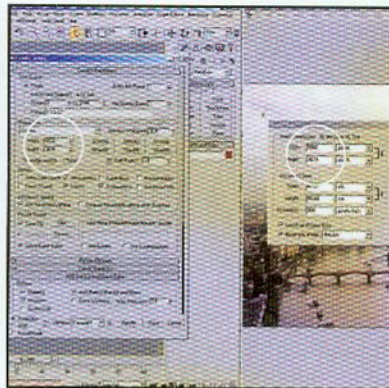
8 There are a few more settings to tweak, to get the desired step size, opacity, shape and thickness. Using the Preview tool, check out the resulting cloud formations, and adjust the position of the sky if desired to generate different cloud effects. To speed things up, only preview using 2D clouds, and flip on 3D clouds when you've sorted everything else out.



9 You don't have to use *3ds max* and Dreamscape to create these cloud effects – a standalone program such as *Terragen* will produce excellent results (although you'll have to register to get over the default render output size, it'll still work out considerably cheaper than using *3ds max* and Dreamscape).



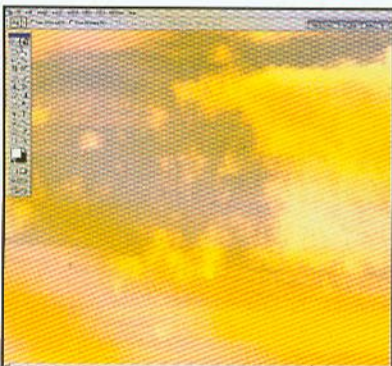
10 Test the render by performing a few low-resolution renders. Ensure that the clouds don't completely cover the sky and aren't too patchy, because this can make the image look too fake with the backplate's ground lit mostly using diffused lighting. We want a sky which is mostly cloud, but with areas of blue peeking through.



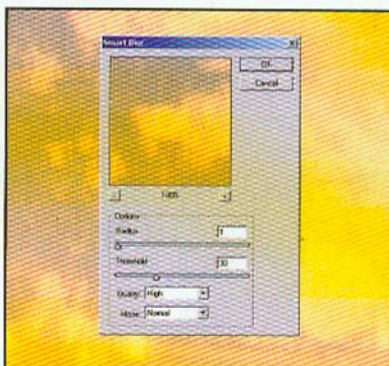
11 Render out the final image with the same settings as your *Photoshop* canvas. Depending on whether or not you've used 3D clouds, you'll notice an exceptionally long render time, especially if you've enabled *Dreamscape* anti-aliasing.



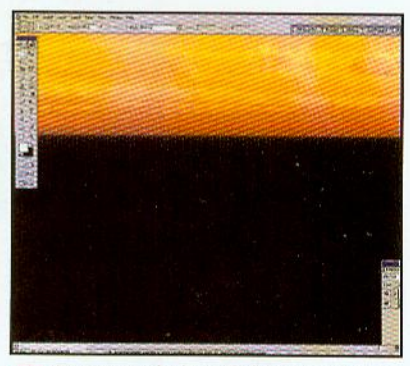
12 A few hours later, and you'll have your rendered image. Save this out if you haven't done so already, and load it (or the *clouds_sky.jpg* image provided on the cover CD) into *Photoshop*. Shift-move the cloud render across to the backplate to drop the image in place.



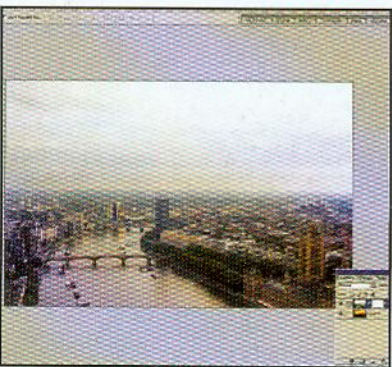
13 The chances are that you haven't used *Dreamscape* anti-aliasing, because rendering an image this size would take an age with it turned on. Therefore, before you start dropping in extra elements, you'll need to quickly clean up the image due to the render artefacts.



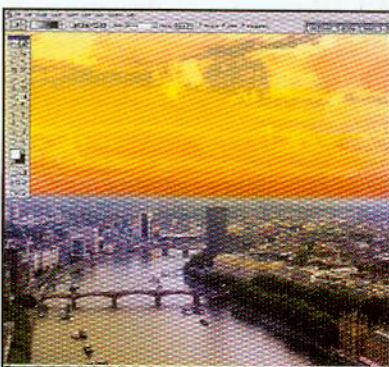
14 First, run this cloud layer through a *Smart Blur* filter to gently blend any pixelated clouds together. Open up the filter in *Filter>Blur>Smart Blur* and enter a *Radius* of 1 and a *Threshold* of about 30. Crank up the *Quality* to *High* and click *OK* to apply the filter.



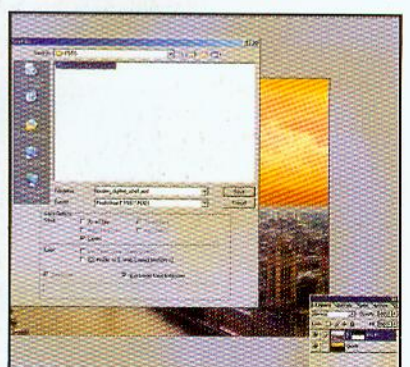
15 As we've got this large black terrain section on our sky, we need to either remove it or drop it behind the backplate. Either way, one of them is going to have to be masked out. Normally, something like this could just be erased, but as erasing is destructive, you can keep the original plate and simply mask out half of it.



16 Double-click the *Background* layer and *OK* the resulting *New Layer* box that pops up. Next, re-order the layers so that the cloud layer is situated behind the backplate. Ensure the backplate layer is selected and click on the *Add Layer Mask* button to create a new mask for this plate.



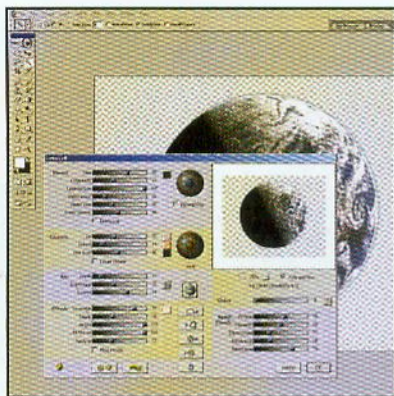
17 Select the *Gradient* tool and ensure that the gradient is set to *linear Foreground to Background* colours. As we want the bottom of the backplate to be opaque and the sky transparent, add a gradient to the mask that goes from black to white vertically around the horizon line, as shown.



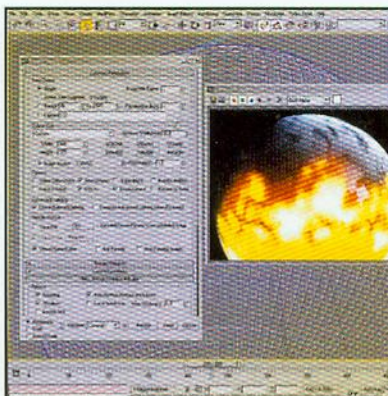
18 Finally, for future reference, label the two layers '*Clouds*' and '*BG Plate*'. With the cloud layer dropped in, you can introduce the invading planet behind it.

Part 2: Adding a planet

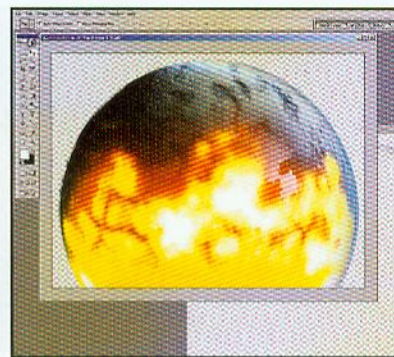
With the sky layer dropped in, you now need to create and overlay an image of a planet onto it...



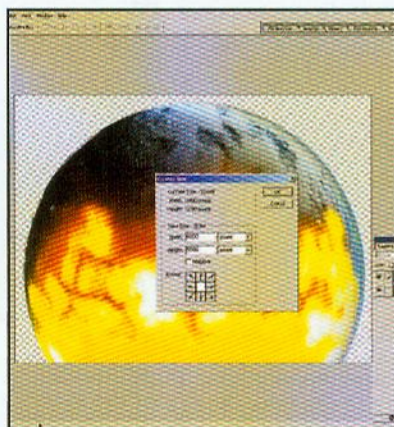
1 To create the planet, you can either use some 3D modelling and rendering software such as *3ds max*, a *Photoshop* plug-in such as Flaming Pear's *Lunar Cell*, or even build your own using a circular mask on an unwrapped planet texture with a few lighting effects.



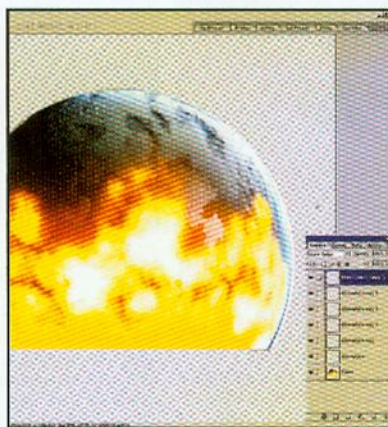
2 We've produced our planet in *3ds max*, using an unwrapped texture generated in *Lunar Cell*, which was assigned to a sphere, lit and rendered out. The atmosphere was rendered out as a separate layer so we can composite them together in *Photoshop* and add extra effects more easily.



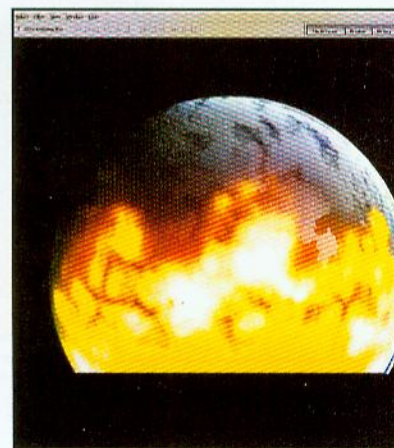
3 The two layers are rendered off and saved as 32-bit targa files, so load them both – the planet.tga and atmosphere.tga files on the cover CD – into *Photoshop*. As both images are the same size, use the Move tool to Shift-drag the atmosphere image onto the planet image and release the mouse button. The atmosphere will be overlaid exactly in the right place.



4 When merging the two together and blurring the atmosphere, you need extra canvas to play with, so go to Image>Canvas Size and set the size to 6000x6000 pixels. Close the original atmosphere image because you no longer need it.



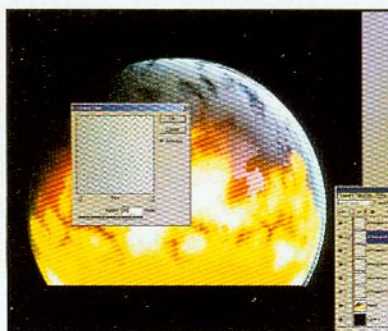
5 Label the two layers accordingly. First, you need to intensify the glow around the edge of the planet. Set the layer blending type of the atmosphere layer to Linear Dodge, and clone the layer about five times.



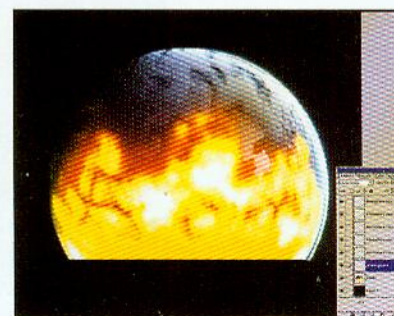
6 Create a new layer and fill it with black. Re-order the layers so that the black background is behind the planet and atmosphere layers, so you've got something to test your new glow effect on.



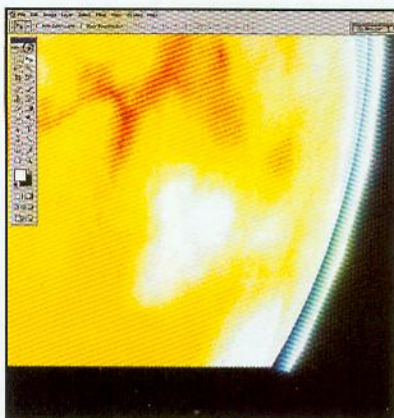
7 With the fifth atmosphere copy selected, go to Filter>Gaussian Blur and amend the blur radius setting to 150. This blurs the atmosphere layer so much that it's almost invisible. This is okay though, because you need to perform the same task on the other atmosphere layers with reducing intensities, so they get more intense the closer they get to the planet, creating a kind of Inverse-Square falloff effect.



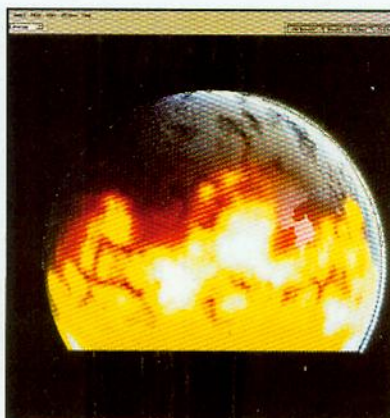
8 With the fourth atmosphere copy selected, apply another Gaussian Blur filter to the layer, but this time set the radius to approximately half of what it was before – about 70 should suffice.



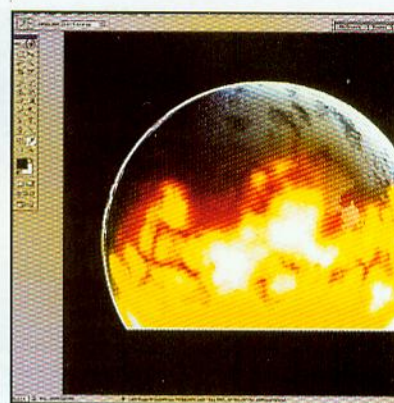
9 Perform the same blurring and halving-the-radius setting for the rest of the atmosphere layer copies – so you've got radiuses of 35, 17 and 8. Blur the final atmosphere layer (the original one) with a radius setting of 2.



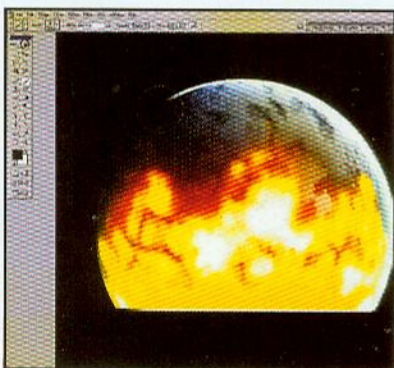
10 This has generated quite a nice falloff effect, but even with all the blurring, you've still got a dark gap between the atmosphere and planet, which needs to be removed before you can introduce this image to the backplate and clouds.



11 To remove this, you need to fill in the gaps. Hold down Ctrl and click on the planet layer to load in its transparency selection. Create a new layer and position it directly behind the planet so that it's between the planet and the black background.



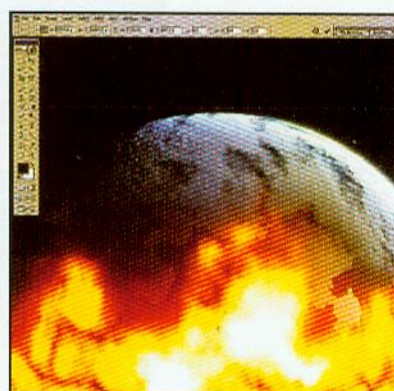
12 To cover the gaps, you need to expand the selection, so go to Select>Modify>Expand and enter an expansion of 40. Hit D to reset colours, then hold down Ctrl and hit Backspace to fill the selection with the background (white colour). Hit Ctrl-D to clear the selection.



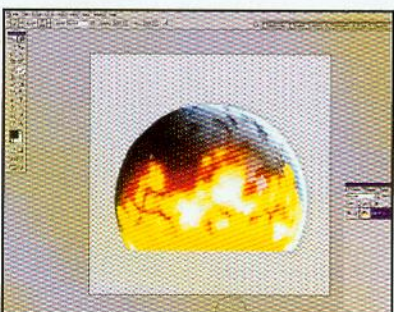
13 Next, you need to remove the new white outline from the dark side of the planet, so add a layer mask to this filled white layer. Using a large soft brush with a diameter of about 1000, flip the white and black colours by hitting X. Paint black onto the layer's mask around the edge of the dark side of the planet to remove the white from this area.



14 Paint out the white until you reach the light side of the planet and the atmosphere starts to kick in (this may take a little time masking and unmasking to get the fade-out place exactly right). Don't worry about the white line on the underside of the planet as this is going to be occluded anyway.



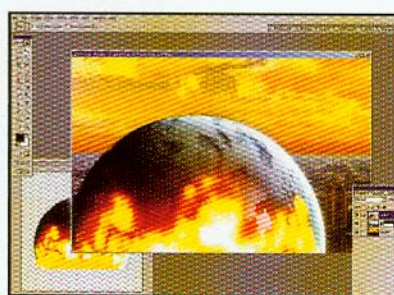
15 To remove any harsh edges and to blend this white layer in with the rest of the atmosphere, apply a Gaussian Blur filter to the layer, with a Radius of about 20. You'll need to fade in the blur so it's not so dithered. To do this, scale the white layer vertically so the top of the white glow blends in nicely with the atmosphere glow.



16 Finally, remove the background black layer, link all the remaining layers together and merge them to form one composite layer. Save the file out as planet_atmosphere_composite.PSD for later use.

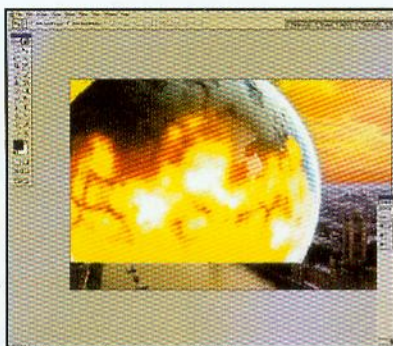


17 If you're working from an image generated in Lunar Cell (ensuring that the light originates from the right-hand side of the planet to match the rest of the scene), you won't have the extra fiery effect to work with, so overlay the 'planet fire glow.tga' file on top of your planet, resize to fit, then merge down to one layer.

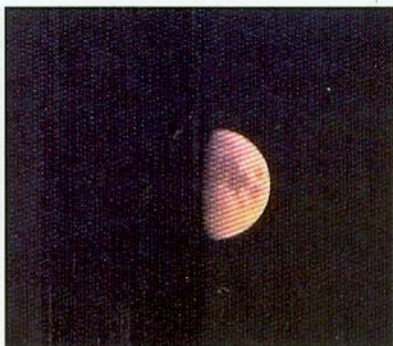


18 With the planet's atmosphere effects now completed, it's time to drop the composite into the main image. Using the Move tool, drag the planet layer across to the main image. This may take some time to copy across due to it automatically converting from RGB to CMYK.

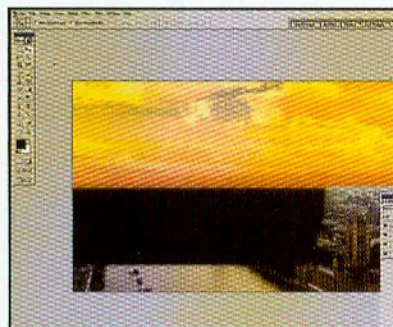
Adding a planet continued...



19 Label and reposition the planet layer so that the top half of the planet is well over the top of the horizon with the main red intensity situated low down on the horizon. This enables you to illuminate the horizon, giving the effect that something catastrophic is happening way off in the distance.



20 Just a quick example of how the planet effect should appear. On some days, you can see the moon quite clearly in the sky, but only part of it is visible. The dark side of the moon isn't visible, and the light side creates a slight glow, but most of the moon's detail can be picked out. You need to simulate this effect using your planet.



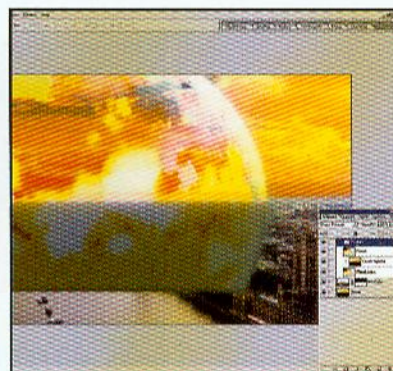
21 Clone the clouds layer and reposition it above the planet layer. Create a clipping group by holding Ctrl and Alt and clicking on the line between the two layers in the layer stack, resulting in the planet as the base layer and the new cloud layer on the overlying layer. This means the cloud layer is masked using the planet layer's transparency information.



22 Set the blending type of the new cloud layer to Pin Light and rename it Clouds Lighting. This will tint and add the colour and intensity of the clouds to the glow of the planet, thus making the area of cloud appear to be glowing more due to the planet's backlighting.



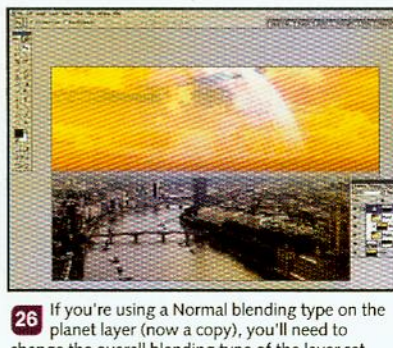
23 Copy the planet layer and re-position the original (because the copy is now the base layer in the clipping group) on top of the layer stack. Set this layer's blending type to Soft Light. Blur this planet layer by applying a Gaussian Blur to it, with a radius of approximately 40.



24 Link together the three layers: Planet, Clouds Lighting and Planet Copy. Click on the Layer menu and go to New>Layer Set from Linked. Enter 'Planet' as the name and click OK. The linked layers are now linked inside one set, which makes for good housekeeping.



25 You now need to mask out the bottom half of the planet layer set so that it fades out into the background cloud layer. To do this, select the planet layer set and add a layer mask to it. Using the Gradient tool as before, create a gradient from white to black vertically down to just above the horizon, where the number of clouds is densest.



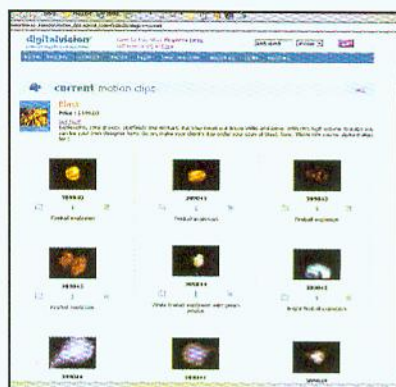
26 If you're using a Normal blending type on the planet layer (now a copy), you'll need to change the overall blending type of the layer set because there's a visible edge to the top left of the planet on the cloud background. Changing the blending type to Lighten will result in the darker areas not being passed through, thus removing the contrasting edge. Also, this base planet layer is a little sharp in contrast to the background plate, so Gaussian Blur it slightly.



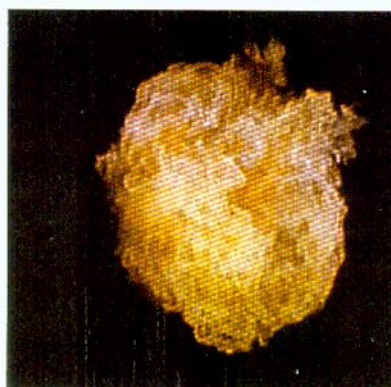
27 Now that you've sorted out the clouds and planet composite, you need to re-order the layers so that you can perform any additional effects on the background plate and not have them affect the clouds and planet (unless you set up some elaborate masking). So drag the BG Plate layer up to the top of the layer stack.

Part 3: The explosions

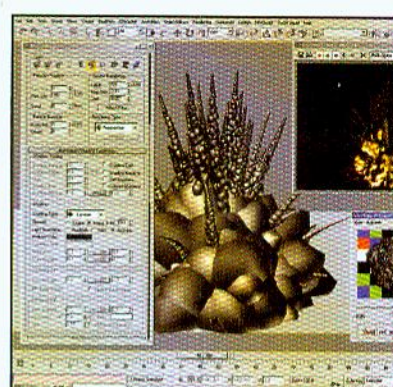
Now comes the fun part. Unless you're specially trained, blowing up stuff in your back garden isn't exactly feasible. Anyway, it'd scare the cat...



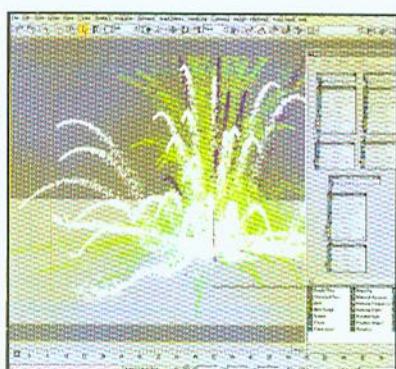
1 As we have no way of blowing up stuff ourselves to use as plates in these shots, we're going to have to resort to either pre-shot footage, such as those from stock libraries, or generate it ourselves using CG.



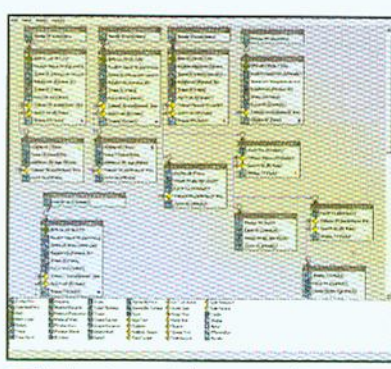
2 For the initial impacts, the CG route is the best one to take because it gives you more control over shape and motion, depending on the impact direction. You can use stock footage later on for the smaller fires, which litter the city.



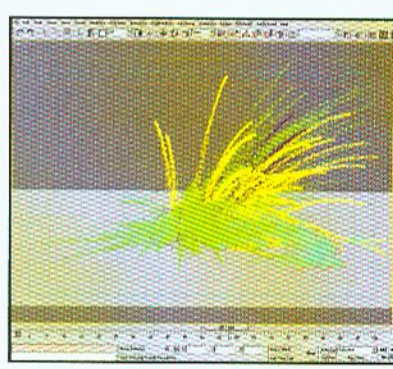
3 In this instance, we're using *3ds max* with another plug-in called *AfterBurn 3.0*, which enables us to create nice volumetric smoke and pyro effects that can pass off as actual footage – so much so that it has been used in several feature films.



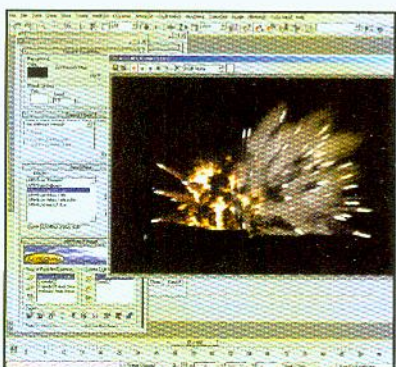
4 To control the pyrotechnics and CG impact debris, we're going to use several *3ds max* Particle Flow systems to create the initial particle ejection. After that, these systems are designed to take over and create debris trails, additional debris when it hits land again, explosions and so on.



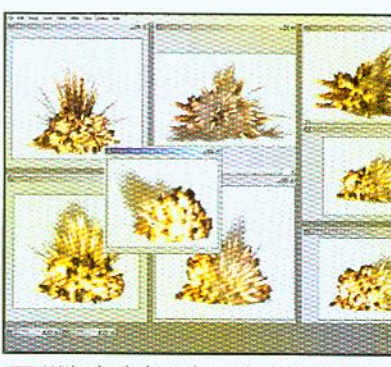
5 Each system controls a separate effect and behaves slightly differently. We have an initial explosion that's like a large pyrotechnic cloud, then another system drives the fiery trails emitted from this explosion, another controls high velocity debris trails, another controls slower debris trails, and a final one handles a large plume of ejected matter.



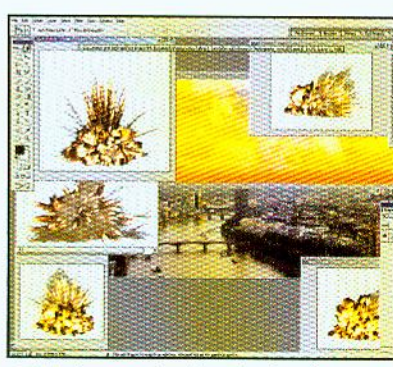
6 The ejection angle is dependent on which direction these systems' emitters point in. So to create a variety of explosions, the emitters were placed at different angles, and stills were rendered off at different frames to simulate more recent impacts. Here the system is simulating an impact of 40 degrees.



7 As these images have to be rendered off onto a background of some sort, they'll have to be cleaned up so you can work with them properly. A black background will make it easier to separate the explosion from the background, and you can make use of the *Matte Removal* tool in *Photoshop*.



8 With a load of samples rendered out to 32-bit targas and converted and cropped (to save space on the cover CD) to *Photoshop* files, you can simply drop these straight into *Photoshop* and position them in the desired locations. So load in all of the *Impact PSDs* from the CD to see what selection you've got to play with.



9 First, you need to determine what direction your meteorites are coming from. As the majority of the explosions are designed to be facing one way (so they could be flipped if desired), we suggest that they come in from the left-hand side. All you need to do now is pick specific ones and place them in the canvas.

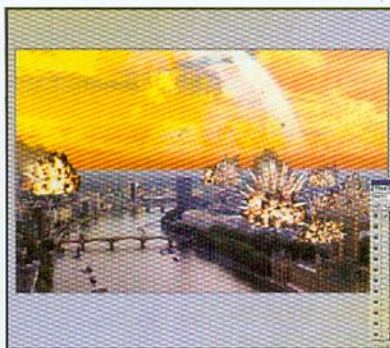
The explosions continued...

White highlights

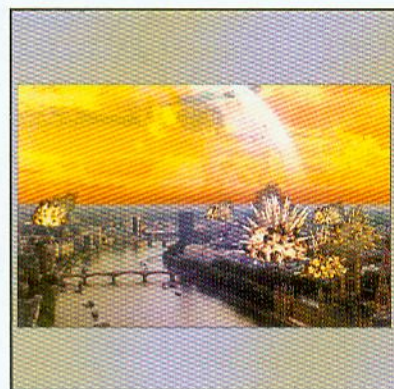
The reason for using the Dodge tool with a Highlights setting when re-painting the mask is so that the white that's already present in the mask becomes more intense. If you were to use a standard brush, you'd have to re-paint the point where the meteorite trail enters the impact explosion, because you'd be painting white directly onto the mask instead of just intensifying it around certain areas.



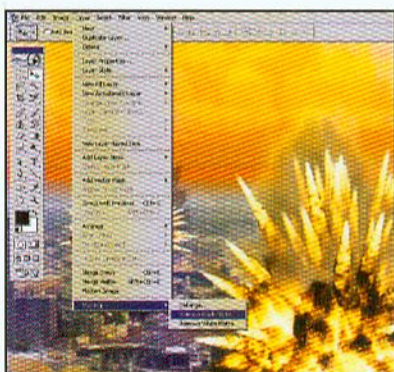
10 Start off by positioning an explosion behind Westminster. For this, use one of the vertical impacts – say, number 50. Drag this to the canvas and position it as the top-most layer, just to one side of the building as shown.



11 Drop in the other explosions that you've chosen – we've gone for a selection of vertical and angled impacts to suggest that there's a lot of chaos going on in the scene. Some have more dust than others. If you find that one explosion cloud is facing the wrong way (like the one in our image on the left-hand side), flip it.



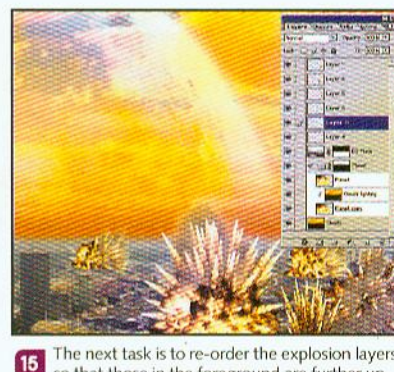
12 You'll find that as these explosions are roughly the same size, many of them will require adjusting to give a sense of scale to the scene. Reduce the sizes of those in the background, but the ones in the foreground can be left alone.



13 As the explosions were rendered off onto a black background, we have a black ghosting effect around the explosions that needs to be removed. Thankfully, *Photoshop 7* has the ideal tool. With one of the explosions selected, go to **Layer>Matting>Remove Black Matte**.



14 Perform this matte removal on every other explosion. Note that due to the high transparency of the dust ejection clouds, this matte removal gives the cloud a slightly white outline. This actually works to our advantage because it makes the cloud look like it's slightly backlit.



15 The next task is to re-order the explosion layers so that those in the foreground are further up the layer stack than those in the background. As some are close together and of similar size, use your own judgement as to which should be in front. Note which ones are in front, because you'll need to place meteor trails in the scene later on and won't want them overlapping incorrectly.



16 Even though these explosions are quite fierce, they do need to be intensified a little more around the centres of each fireball and at the ends of the fiery ejection trails. Using a medium-size diffused brush, and with the Dodge tool set to an Exposure of about 25 per cent and the Range set to Highlights, gently brush over these areas to intensify them.



17 As the majority, if not all, of these explosions are situated behind buildings, you're going to have to mask them out. Add a layer mask to each explosion and remove part of the base of the explosion (which is going to be tucked behind any buildings) by painting this part of the mask black. Don't worry if it's not perfect because you can correct any problems later on by illuminating these buildings further and overlaying extra elements.



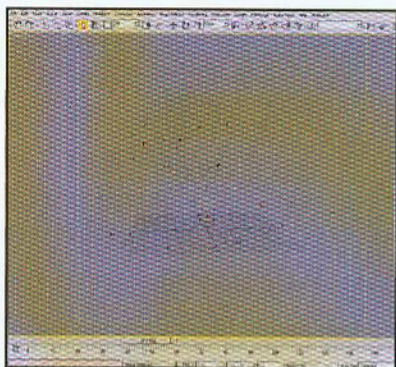
18 Mask out the explosions as before, tucking them behind buildings. Create the impression of intense glows and building destruction by using a feathered mask around buildings in the distance, and a pixelated brush around those in the foreground. This will make it look like the explosion has knocked chunks out of the building. Finally, put all of these explosions into a layer set of their own.

Part 4: Extra debris

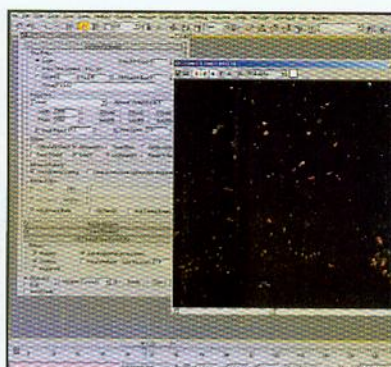
With all these explosions flying around, there's bound to be some debris being hurled into the air from the destruction of the buildings...

Cloning effects

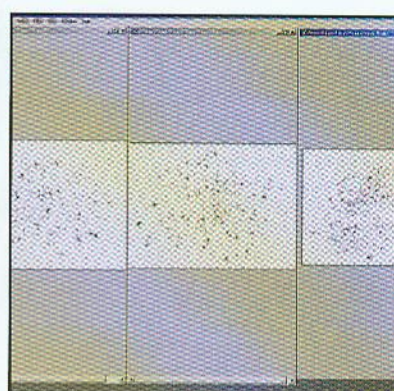
Instead of masking out part of a building, try cloning part of it and transforming it slightly. Put a ton of debris over the top of this layer and add a colliding meteorite trail.



1 As before, the debris ejection has been generated using a custom particle system in *3ds max*. This has been created in a similar fashion to the explosion particle system, except fragment geometry is emitted instead of the explosion and dust clouds.



2 The debris fragment system is rendered off at different angles to produce different effects, depending on the initial impact angle of the meteorite. As before, gravity, wind resistance and ground collision detection all come into play to produce an effective debris field.



3 With all of these elements rendered out to 32-bit targas (which have again been cropped down and saved as *Photoshop* files), you can bring them all into *Photoshop* and choose which ones you want to use with which impact explosion.



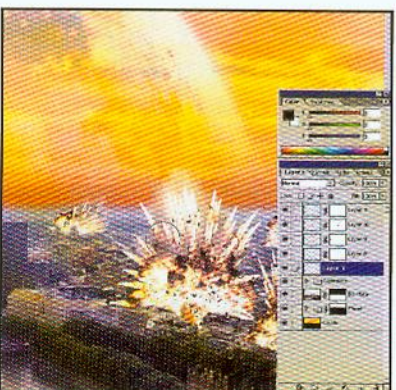
4 Drag one of the debris images across to the main canvas and position it over one of the explosions. The debris just sits on top of the explosion, so you'll have to mask out certain areas to give the impression that some of the debris is still within the initial explosion.



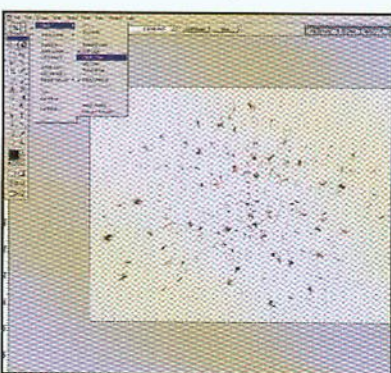
5 Because the debris was rendered off onto a black background, you'll have to remove the black cast or 'ghosting' around the edge of the debris chunks. Therefore, go to *Layer>Matting>Remove Black Matte*. This will result in a cleaner image, with most chunks now appearing like they're backlit, which is the desired effect.



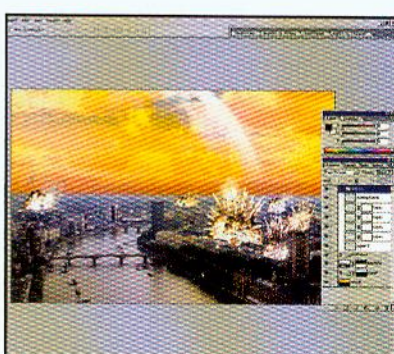
6 With this process in mind, drop in debris for the rest of the explosions, or for as many as you require. Remove the black matting as before. Add a new layer mask to each debris layer so that you can paint out any non-relevant parts shortly.



7 In each debris layer mask, paint out any debris that should be behind buildings. Next, paint out any debris or use the Dodge tool to brush over them to add illumination around the centre of the explosions.



8 To fake chunks of debris being blown off buildings in the foreground, create a new layer and label it *Building Debris*. Convert each debris source file to CMYK by going to *Image>Mode>CMYK*, so you can sample from one image and paint on the next.



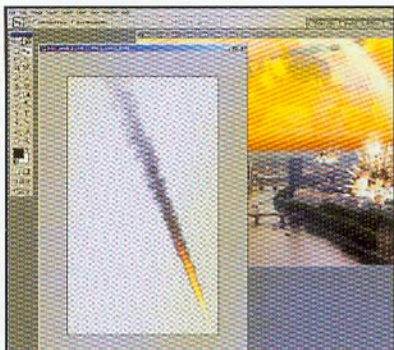
9 Using the Snapshot tool, sample the debris from the source files and paint in the new layer on the main canvas around areas where explosions would cause prominent building damage, such as around the Houses of Parliament. Finally, create a new layer set called *Debris* and add all of the debris layers to this set.

Part 5: Meteorite trails

With the explosions and debris just about finished, you now need to introduce the meteorite trails that are causing all this inconvenience...

Liquify feature

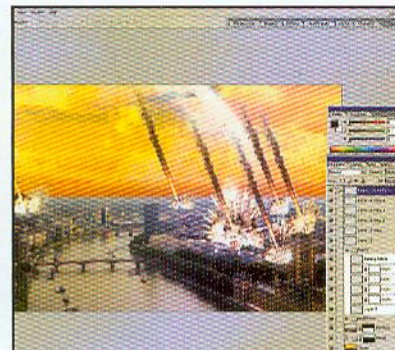
You have to assign the layer mask to the trails layers before entering the Liquify feature, because Liquify will not automatically perform the same effect on the mask. This would result in the same mask, but different paint effect, which is not the result we're looking for.



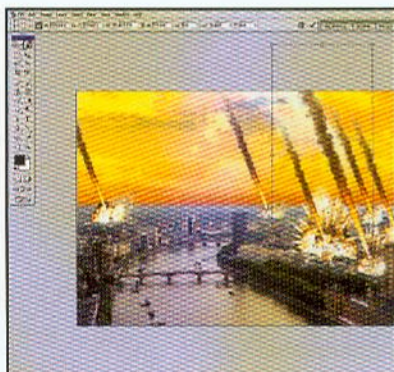
1 With the main canvas still open, load in the `trail_single.tga` file from the cover CD. This is a single meteorite trail rendered straight out of 3ds max using the same volumetrics plug-in as before. This time, a single particle system has been used to generate a meteorite particle, which emits trailing particles to form the smoke.



2 Drag the meteorite trail's image layer across to the main canvas and position it at the top of the layer stack. As we've only got the one trail image, we're going to have to duplicate and tweak it to try to make it appear like there are different meteorite trails.



3 As with the other CG images, we've rendered the original trail on a black background, so remove the black matte as before. This leaves too much of a white outline, but you can sort this out later. Next, as we've got six main impacts, clone the trail another five times and position it accordingly.



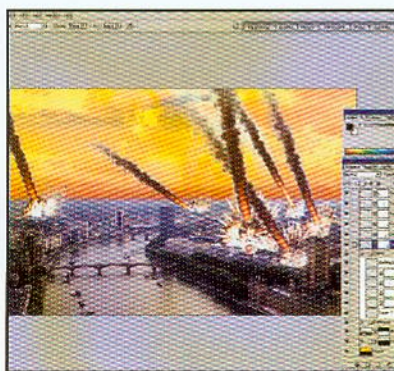
4 At this stage, all of the trails look the same, even those away in the distance. Therefore, using the Move tool, press Ctrl-T and uniform-scale the trails in the foreground by holding Shift to lock proportions and then dragging out one of the corner handles.



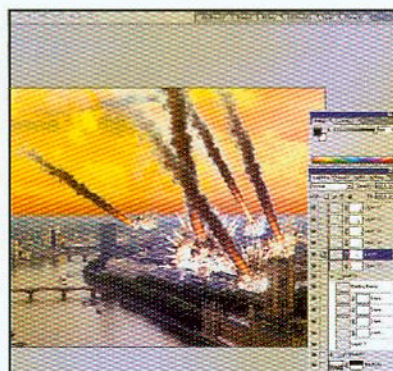
5 Perform this transformation on some of the other trails. As there doesn't seem to be much in the way of motion blur on these trails, you're going to have to introduce some. As they're all facing in the same direction, you can design the settings for one and then apply them to the rest individually, with different pixel distances depending on distance. Go to Filter>Blur>Motion Blur and use an angle of -70 and a distance of 40 pixels.



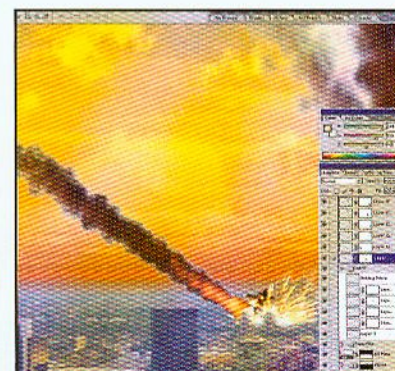
6 The next thing is to determine the impact position and angles of the meteorites. Have a look at the ejection angle of the explosion and debris particle systems and roughly work out what the angle would be. Using the Transformation tool again (Ctrl-T), re-position the meteorites so it appears like they've more smoke than fire. Move the centre of the transformation at the impact point of the meteorite and rotate to the desired angle.



7 As the trail layers aren't opaque enough, duplicate each layer and then merge its copy back into the original. Next, add a layer mask to every trail layer. Work out where each meteorite is going to enter the impact cloud and paint it out on the layer mask using a relatively soft brush.



8 As the trails are overlapping each other incorrectly, re-order the layers so that the nearest meteorite trails are at the top of the layer stack and those furthest away are at the bottom.



9 On the most distant meteorite trail (the one that has the least motion blur), use the Move tool while holding down Ctrl, and select the layer thumbnail (not the layer mask thumbnail) to load in the transparency information as a selection.



10 Invert the selection by pressing either Ctrl-Shift-I or by going to Select>Inverse. As this has now selected the area outside the trail, and is slightly feathered due to the original transparency information, you can make this area transparent. This makes the edges of the trail more transparent, thereby removing some of the white outline.



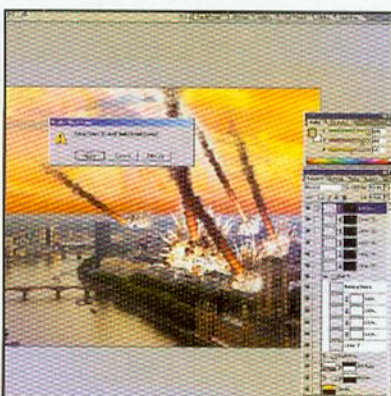
11 Select this meteorite trail's layer mask. Reset the colours by pressing D. Hold down Ctrl and press Backspace to flood-fill the selected area in the layer's mask. Notice that the white on the trailing smoke edge of the trail is reduced. Perform this flood-filling another couple of times, or until it's reduced enough to your satisfaction.



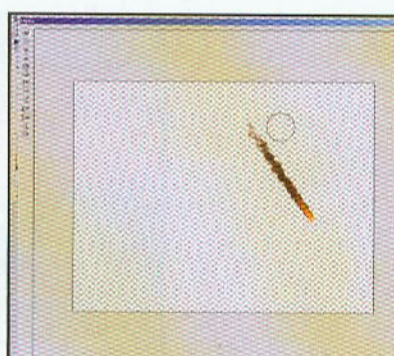
12 Perform this task on the rest of the trails. On some of them, due to the motion blur, you may need to either increase or decrease the amount of flood-filling. In addition, if you feel that the resulting outline of the meteorite trail is too sharp, try blurring it slightly by running over it with the Blur tool and a large soft brush.



13 Because of this removal of the white edge using the layer's transparency information, some of the internal opacity of the meteorite trail has been reduced and is now slightly transparent. To rectify this, go into the trail's layer mask and, using the Dodge tool, set to Highlights and a soft brush about the width of the end of the trail. Then re-paint the mask around this glowing end so it's more opaque.



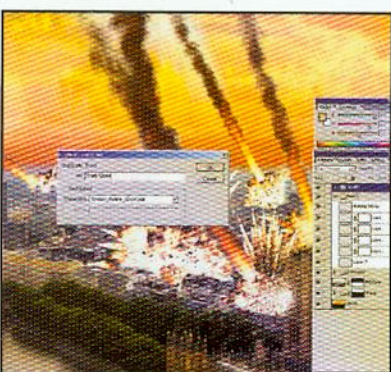
14 As each trail still looks the same, we're going to have to break it up somewhat. Select one of the trail layers and drag its layer mask to the bin (trash) icon in the layer panel and apply the mask when prompted.



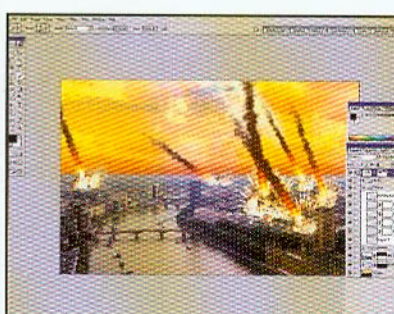
15 Go to Filter>Liquify. This brings up the Liquify tool, in which you can distort the trail a little. Using a medium-size brush, slightly distort the trail by pulling the smoke around. Perform this task (including applying the layer mask) on most trails or as many as you like so that each one appears slightly different.



16 As the majority of the trails intersect the explosions part way down the length of the smoke trail, you'll need to intensify the brightness a bit, especially around the area where the trail meets the explosion. To do this, using a large diffused brush, sweep the Dodge tool over these areas of each trail.



17 As the intensity of the trails has been increased, you need to create a subtle glow around them. To do this, link all trails together and create a new layer set from these linked layers and call it Trails. Right-click the Trails set and select Duplicate Layer Set. Label this new set: Trails Glow.



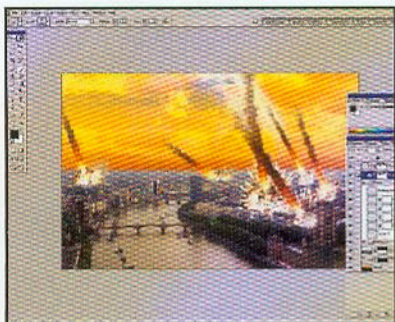
18 With the Trails Glow layer set selected, go to Layer>Merge Layer Set, or hit Ctrl E. Blur the resulting layer using Gaussian Blur; a setting of about 40 pixels should suffice. Duplicate this layer three or four times and merge them together into one layer. Change the blending type of this glow layer to Overlay, add a layer mask to it and, with a large brush, mask out the glow from the smoke trails so it only appears around the impact areas.

Part 6: Additional CG effects

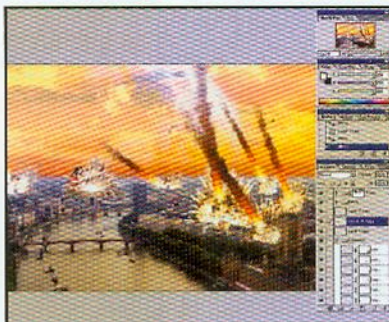
With the majority of the CG work already done, all that remains is to polish off and add some extra detail, such as additional fragments, and clean up the meteorite trails...

Don't overdo it

Create additional shockwaves around the scene if desired, but don't try to overdo the effects. Keep it as subtle as possible, because shockwaves tend to strike fast and fade away faster. It's best to confine them to the larger explosions otherwise the scene may get overly cluttered.



1 First, looking at the image, the meteorite smoke trails are too prominent, especially in the background, closer to the horizon. You should therefore fade them out using a mask assigned to the Trails layer set. Using a large diffused brush with a low flow rate, simply paint slightly where you want the trails to fade out, but don't paint too much or they'll be almost transparent, which will look fake.



2 As there are a lot of areas un-touched by the large explosions, there's room to add some smaller blasts. As we've also used our quota of the CG explosions, we can merge a few together to create new ones. In the Explosions layer set, copy a few of the explosions, move them out of the layer set and position them close together. Discard their layer masks.



3 Scale and position these explosions and collapse down to a single layer to create a new one. Perform the same steps to create another three or four explosions, then scale them right down so they're a fraction of the size of their original counterparts.



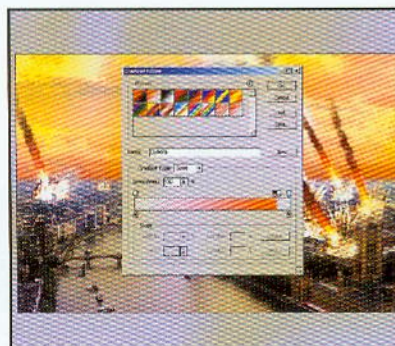
4 As these small explosions are situated quite a distance apart, you can use just one mask to tuck them behind buildings. Create a new layer set called Small Explosions and add all of these new explosions to it. Add a mask to this set and mask out the explosions so they appear to be situated behind buildings as before.



5 Drop the small explosion layer set behind the debris set if it isn't there already. Next, add some extra debris to the impacts. Having created some smaller debris using the Rubber Stamp tool at an earlier stage, you can re-use this by copying the layer and adding this small debris to the small impacts (and elsewhere) using the Rubber Stamp tool again.



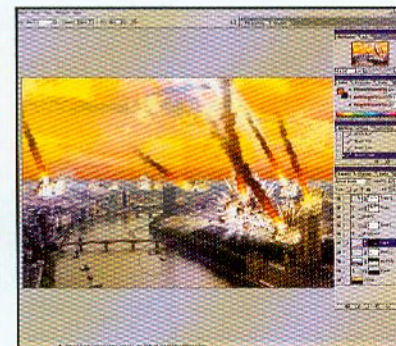
6 To make the CG elements blend into the background plate easier, you need to degrade their quality a little because they're too crisp. Although you can match the grain later on, you still need to blur these elements, so for each explosion, debris and meteor trail, add a Gaussian Blur filter with a pixel radius of about 2.



7 To add to the impression that the impact explosions are powerful, you can introduce a slight shockwave trailing off from the larger of the explosions. To do this, design a new gradient as shown, so it's transparent at either end, but with a sharp rise in opacity just before one of the ends, thus creating a ring when used with a radial gradient.



8 On a new layer, create a radial gradient in the centre of the canvas using our new gradient design with an orange foreground colour, sampled from the sky. Use transformation, reposition, and scale and deform the gradient to give some perspective as illustrated. Re-order the layers so that the shockwave gradient sits on top of the backplate but underneath all of the other CG effects.



9 Set the layer blending type to Linear Dodge and add a layer mask to the gradient. Create shadows by masking out shadow lines in the gradient using a small brush away from the centre of the gradient. Create additional shadow lines by using a large stippled brush. Gaussian Blur the gradient and adjust the shadows if necessary. **CRIP**



Now that we've placed some CG elements into the scene, we can start adding the impact images we shot in Section One to simulate large dust impacts. If you haven't photographed your own impact shots, you'll find all our pre-shot images on the cover CD.

Once we've incorporated the impact shots, we'll light a few fires thanks to stock image samples from animations provided by Digital Vision. The final part of this section involves adding some pre-rendered CG smoke. ➤



Files on disc

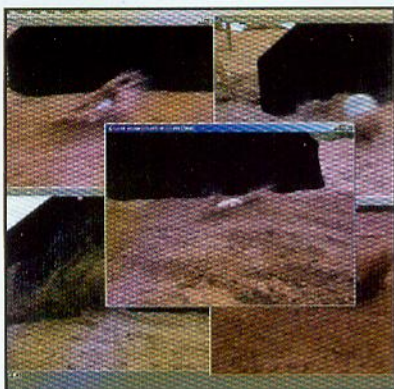
The components needed to complete this tutorial can be found in the Section 3 folder on the cover CD. The fire assets are provided by Digital Vision [w] www.digitalvisiononline.co.uk, [t] +44 (0) 20 7378 5555. These samples are taken from the titles: Blast, Detonate, Inferno, Pyro Effects, which cost £499 each.

Part 1: Adding impact debris

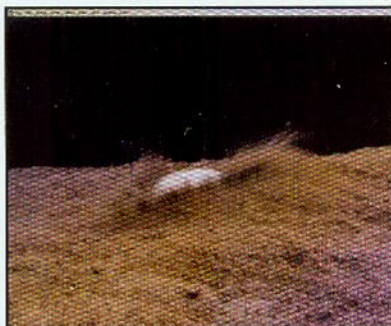
Because of the force of the impacts, a large amount of ground covering is going to be displaced. Use our pre-shot sand impact debris to depict the destruction...

Perfecting debris effects

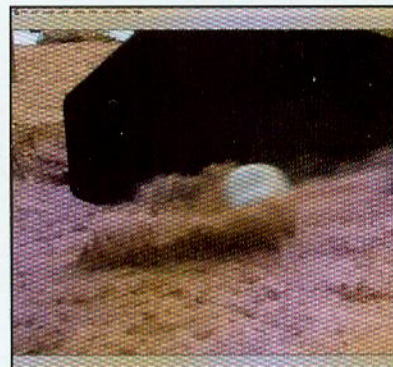
Breaking up the pre-shot impact debris helps hide any masking irregularities. If the shot didn't come out as well as expected, don't be afraid to re-paint and smear the debris to fake motion blur. You can also rebuild some of the debris trails by using the Rubber Stamp tool and blurring and blending to form the debris effect you want.



1 Load all of the sand impact files into Photoshop from the cover CD. Choose the ones you want to include in your main composition – some are masked against a black background, while others aren't.



2 Bear in mind that although the mask is useful to have, it's not essential, because you can apply additional motion blur to the debris to blend out any problem areas. The main problem is the presence of the original projectile in some of the images, so these will either have to be painted out or discarded. It'd be a waste to discard the images, so painting out the projectiles is preferable.



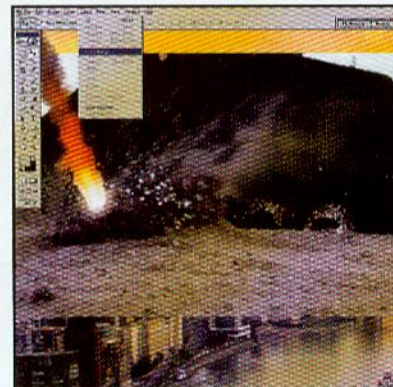
3 Alternatively, you could use the projectile's colour as an additional mask, so the explosion can be slotted into place. However, as the projectile has bounced on some occasions, the explosion will need to completely occlude it, which may require extra work.



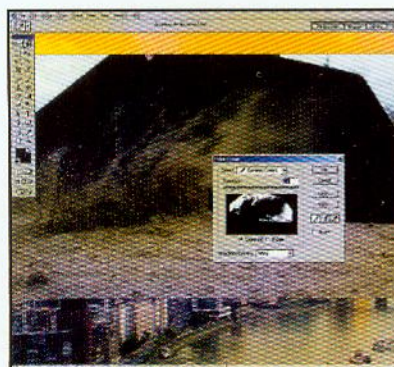
4 Line up the composition and the selection of impacts and determine which impact is going to go where. You don't have to have an impact debris trail for every single explosion, because this would be overkill. Make a selection of about two or three explosions which would benefit from the impact, and choose the right debris for the right explosion.



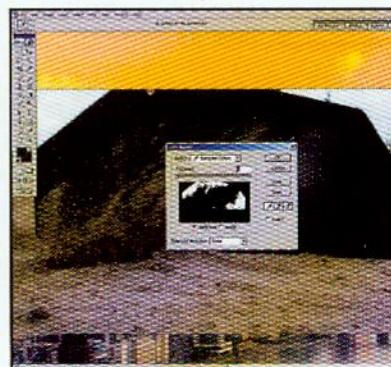
5 Using the Move tool, drag and drop these impacts into their desired locations. You'll want to position the majority over the top of the explosion so you can remove the debris and therefore see the explosion underneath. Don't worry about the lighting on the impact because you can sort that out later.



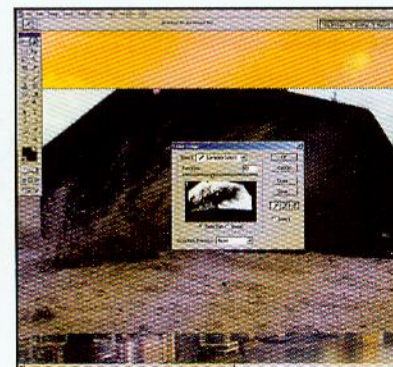
6 First, you should concentrate on the impact on the left-hand side, so turn off the other layers for now. Initially, you need to remove the black matte from the scene. To do this, use Colour Range selection by selecting just the black on this layer.



7 Doing this will result in a selection covering the entire canvas, which can take a long time to process. Therefore, hide any layers above this one, hold down Ctrl and click on the sand debris layer you're working on to load in the selection, then go to Select>Colour Range.



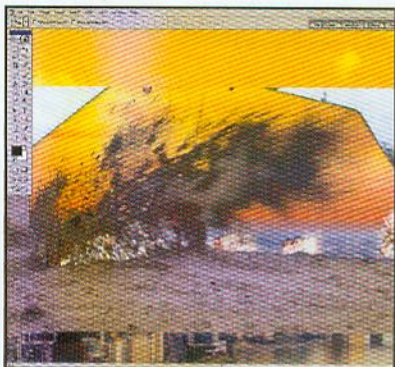
8 In the Colour Range selector, ensure that the preview window is set to Selection, so you can see which areas have been selected. In the main window, use the Eyedropper tool to sample a black colour, then hold Shift to select a few more around the black matte.



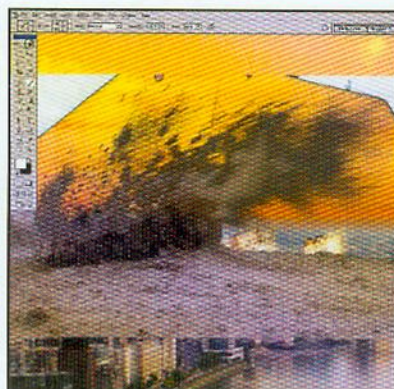
9 With the black matte selected in the main window, the preview window should display the matte as white, indicating that this is the selected area. Increase the Fuzziness to about 80 so that similar coloured pixels are selected, then press OK.

Replacing colours

The reason we didn't originally flood-fill the background is because the background colour was pixelated – several off-black shades. By using Replace Colour, we managed to get the off-black shade down to a constant single colour, then we used the Paint Bucket tool to finally replace this solid off-black with a constant single colour, then we used the Paint Bucket tool to finally replace this solid off-black. We didn't use a high tolerance or anti-aliasing because this would have gone further into the flame and reduced the amount of glow.



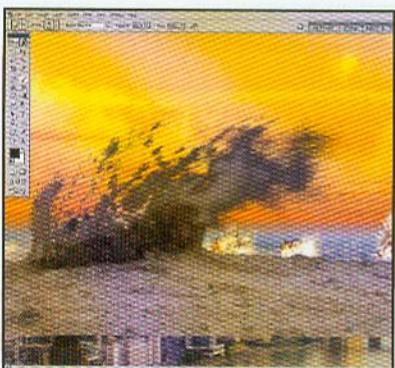
10 With the selection from the Colour Range still selected, add a new layer mask to this layer. As only the black is visible, select the layer's mask and press Ctrl-I or go to Image>Adjustments>Invert. This will invert the mask, thereby masking out the black and showing the debris.



11 Because this selection also covered dark areas within the base of the impact, which is now masked out, you need to re-paint the mask to bring them back. Using a medium-size brush, paint white in the layer mask then make these areas opaque.



12 Next, you need to do a fair bit of masking out. Paint black on your layer mask so that all external areas around the impact site are masked out. Don't worry if some of the black matte still remains, because you can sort that out shortly – painting it out now would only make the end result blotchy, because you'd most likely paint out some of the debris.



13 Notice that the leading edge of the impact debris is too opaque where the matte used to be. To rectify this, and to remove some of the black outlines from the debris, load in the selection of the layer's matte, invert the selection then flood-fill it black a couple of times.



14 Next, to remove the black outlines from the debris, apply the layer mask to the layer. Drag the mask to the bin icon in the Layers palette and apply the mask when prompted. Remove the black outline as performed previously by going to Layer>Matting>Remove Black Matte.



15 There's still some black in there, so to reduce this, copy the layer and set its blending type to Screen and merge the two layers. Scale the layer down to fit the explosion. Add another layer mask to the layer and, with a combination of brush types, paint out the majority of the sand underneath the impact, but leave some around the base to suggest displaced earth.



16 Now that everything's in place, remove the dark areas and reduce the blotchiness. In the mask, with a large stippled brush with a low flow rate, brush over the problem areas to break them up a little. Apply the layer mask, duplicate the layer and change the copy's blending type to Linear Light with an Opacity of 60 per cent to brighten it up further. Merge these layers.



17 Finally, go around with the Dodge and Burn tools to add extra light and shadow effects to the impact debris. To create extra debris, use the Rubber Stamp tool with a stipple brush, and place debris flying from the impact site. Don't forget to blur this extra debris using either the Blur/Smudge tools or the Motion Blur filter. You also need to blur the layer slightly to blend in with the background as before.



18 With this one done, it's a relatively simple procedure to do the same for the other impact layers – simply remove the background, remove the majority of the ground, brighten it up and introduce fake lighting. If the colours aren't right then adjust them using Replace Colour. You may also want to reduce or increase the colour saturation and tweak the levels to get it just right.

Part 2: Building fires

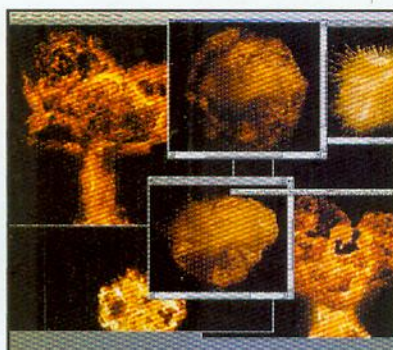
You now need to add subtle fires around the city, positioned on top of and behind buildings to suggest that there has been some damage caused prior to the main meteorite strike...

Screen blending

The Screen blending method intensifies only light shades and colours, so any dark patches within the fire will be left out. To include these, you'll need to cut out the fire using either colour selection or the Magic Wand tool, then brighten it up to get the brightness on a par with the rest of the fires in the scene. Normal blending will keep the dark patches, but to create extra glows, try using a blurred copy of the same layer with a Screen blending setting.



1 First, decide where to position your fires. The majority of them can be placed randomly around the scene, but bear in mind that having a concentration around the impact sites will make the scene look fake – small explosions by all means, but licking flames suggest that the fire has been there for a while.



2 Thanks to Digital Vision, you have a number of pyrotechnics to play with. The images included on the cover CD have been captured from PAL-resolution stock footage, which enables you to drop them right into the canvas. However, you do need to choose which ones go where, and you can merge a few together to create new effects.



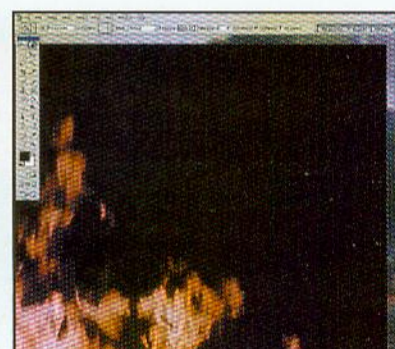
3 Bring all four samples from the Digital Vision/Inferno/388001f folder on the cover CD into Photoshop. These clips are frames extracted from one motion clip of licking flames, so you don't have to extract them as part of this tutorial. They're on a black background, so you'll have to either extract the background, matte it out or use a blending method that allows the black to pass through.



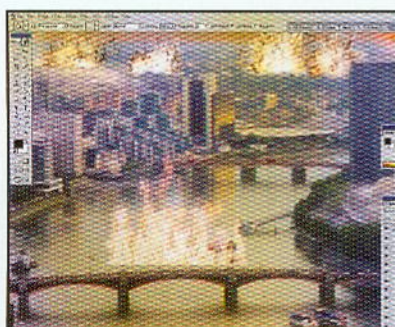
4 Ensuring you're on the top-most layer in the main canvas, drag one of the flame images into the composition. Change the layer blending type to Screen and you'll immediately see a problem: the black isn't totally black. This is due to jpeg or motion jpeg encoding, so you'll need to quickly replace this colour with solid black, which is a simple procedure.



5 Load in the layer's transparency as a selection by holding Ctrl and clicking on the layer. Next, go to Image>Adjustments>Replace Colour. In the Replace Colour tool, using the Eyedropper, sample the flame's black background on the main image, and tweak the fuzziness so that all of the background is selected. Reduce the Lightness slider to 0 and press OK.



6 This may not completely convert the colour to black, so, with the layer still selected, choose the Paint Bucket tool, set its Tolerance to a low value, turn off Anti-aliased and enable Contiguous. Because you're working in CMYK, pressing D to reset the colours will result in an off-black.



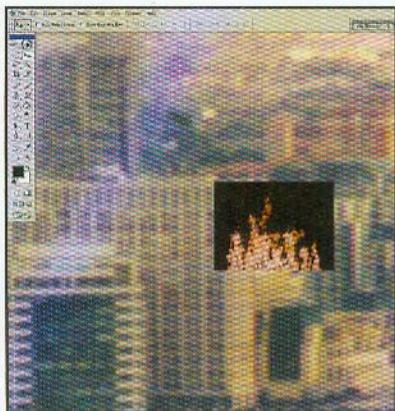
7 In the Colour window, select the > icon and change the sliders from RGB to CMYK. Crank all of the CMYK sliders across to the right to make a true black. Flood-fill the slightly off-black background with the true-black colour. Changing the fire layer's blending type to Screen, you'll see that you no longer have any problem with the black background.



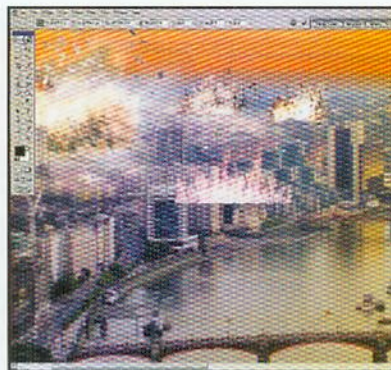
8 Next, you need to position your new fire effect. As this is a licking flame that suggests the fire has been there for a while, select an area away from the main impact explosions. We've decided to start a fire behind one of the buildings on the bank of the Thames.



9 Zoom right back so you can see the entire canvas. You'll immediately notice that, compared to the scale of the rest of the scene, the flames look huge, which makes the rest of the scene look fake. Therefore, you'll have to scale the fire down dramatically so that the flame sizes appear more convincing.



10 Because of this scaling, the flames are now tiny, so you need to add some extra fire layers. You could just duplicate the layer and offset it, but repetition would be visible.



11 Introduce the other fire samples from the same Digital Vision set and perform the previous steps on them, positioning them with the original fire once finished. This breaks up the regularity of the flames and removes any repetition. You can also increase the size and, therefore, the intensity of the flames.



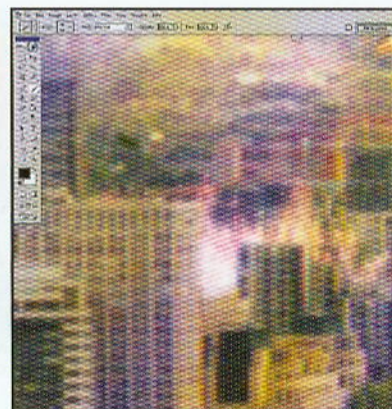
12 Skew the flame so that it follows the edge of one of the buildings. Merge these flame layers into a single layer and add a layer mask to the resulting layer. Fill the layer mask with black and, using a slightly diffused brush, paint white in the layer's mask around the edges of buildings to tuck the flame behind them.



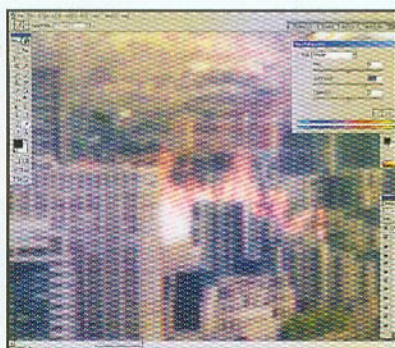
13 Set the flame layer's blending type back to Screen, and copy the layer. Set the copy's blending type to Lighten or leave as Screen depending on your preference (you may want to reduce the intensity a little). To suggest that the flame is a bit more intense, and to alter the brightness so it's in keeping with the rest of the image, you need to add a little extra glow to the flame.



14 Gaussian Blur the layer copy a fair amount to create a nice glow around the flame, and therefore around the sides of the buildings. Zooming into the image, you'll see that the flame is too crisp, so to match the blur of the original backplate, and the other composite elements, you also need to Gaussian Blur the original flame a little.



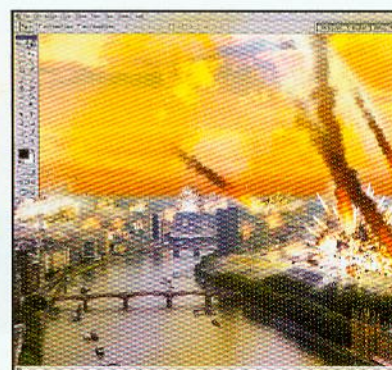
15 Finally, you can merge these two layers and apply the layer mask (it's best not to duplicate this fire anywhere else in the scene for fear of repetition). Set the layer blending type to Screen.



16 The only thing left to do is to intensify the colour of the flame. As the layer's blending type is set to Screen, some of the flame's colour has been washed out, so to increase this go to Image>Adjustments>Hue/Saturation and crank up the Saturation until you get a more intense flame colour.



17 Zooming right back, you can see that the effect is quite subtle yet effective and doesn't detract from the main explosions – in fact, it complements them. There should be more glow around the base of the fire, but you can paint that in later.



18 Using these steps, drop in a few more flames around the scene to include burning buildings, fires behind and in front of buildings, glows to suggest smaller fires and so on. Here, we've grouped a few more fires and explosions into their own layer set.

Part 3: Where there's fire there's smoke

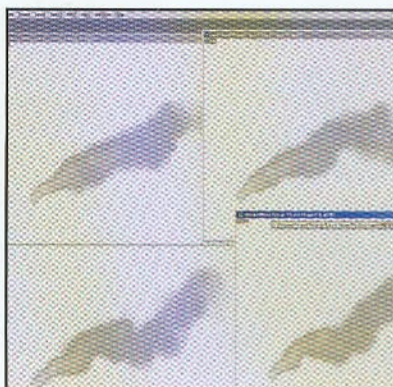
You need to give the impression that the fires have been burning for a while. Smoke indicates that there are some local fires and damage that can't be seen, or that there are fires that have already been extinguished...

Different types of smoke

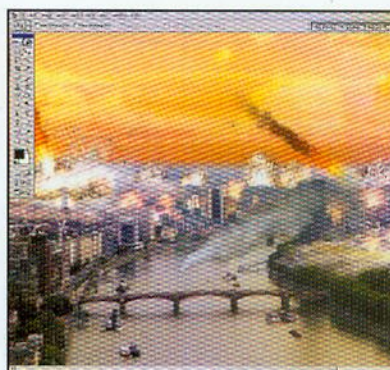
Instead of using Screen or Lighten layer blending types, try using darker smoke effects to suggest different combustible materials. Ensure that the darker smoke does not occlude any of the bright areas otherwise it'll look fake. Alternatively, you can mask out or Colour Dodge these areas of the smoke to brighten them up — this will give the appearance of light shining through and/or backlighting.

Shaping smoke trails

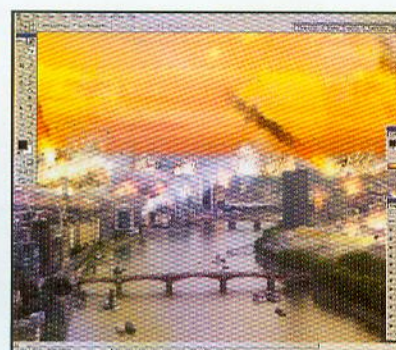
If the CG smoke's direction isn't to your liking, use the Liquify tool in Filter>Liquify to deform the shape and form of the smoke trail to the shape you want. Some of the smoke may be too opaque, so tint and adjust its opacity to suggest different types of fires.



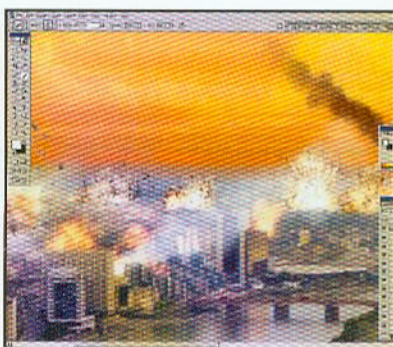
1 As with the other CG volumetric-based effects in this scene, the smoke has been generated using *3ds max*. Each trail is from the same particle system, but with slightly different wind frequencies to create a variety of smoke trail shapes.



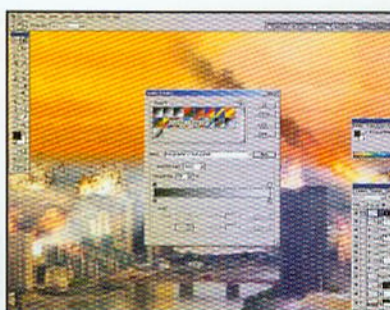
2 In *Photoshop*, open up one of the smoke trail TGAs provided on the cover CD and drag and drop it into the composition. Re-order the layers so that it's at the top of the layer stack (you can easily re-position the layer later on to place it behind other composited elements).



3 Position the smoke where there's a large amount of fire. As the smoke was rendered off on a black background, you need to either remove the black outline of the smoke as before, or change the smoke layer's blending type to Screen or Lighten, which is preferable as it doesn't occlude the intense explosions in the background.



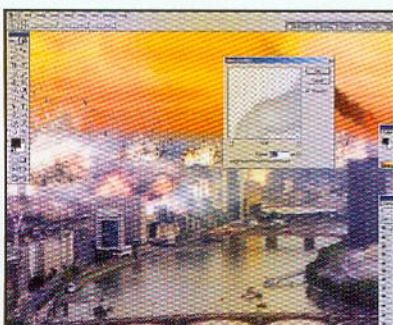
4 Next, mask out the smoke's emission point, or any other areas if you want it to appear to be situated behind some buildings. Add a layer mask to the smoke layer and flood-fill it with black. Using a medium-size diffused brush, paint white on the mask through and around the buildings where you want the smoke to appear.



5 Use a larger diffused brush with a low intensity to paint white on the layer mask over the front of nearby buildings — this gives the impression that some smoke is passing in front of the building. The end of the smoke trail is clipped, so use a black-to-transparent gradient or a large diffused brush to fade the smoke trail out uniformly. Alternatively, Gaussian Blur the end of the trail using a feathered selection.



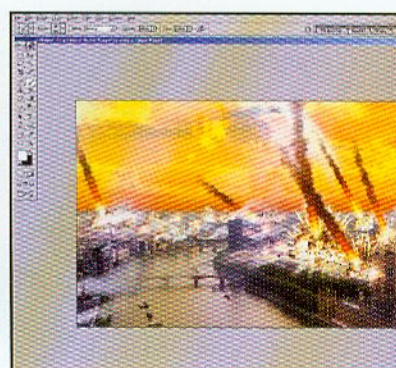
6 The smoke should trail off more horizontally than diagonally, so it doesn't look like it's being forced into the atmosphere. Un-link the layer and layer mask so you don't affect the mask, and, using the Transformation tool on the layer, skew the trailing end of the smoke vertically downwards to level off the smoke. Alternatively, adjust the pivot of the transformation and rotate around the smoke emitter point.



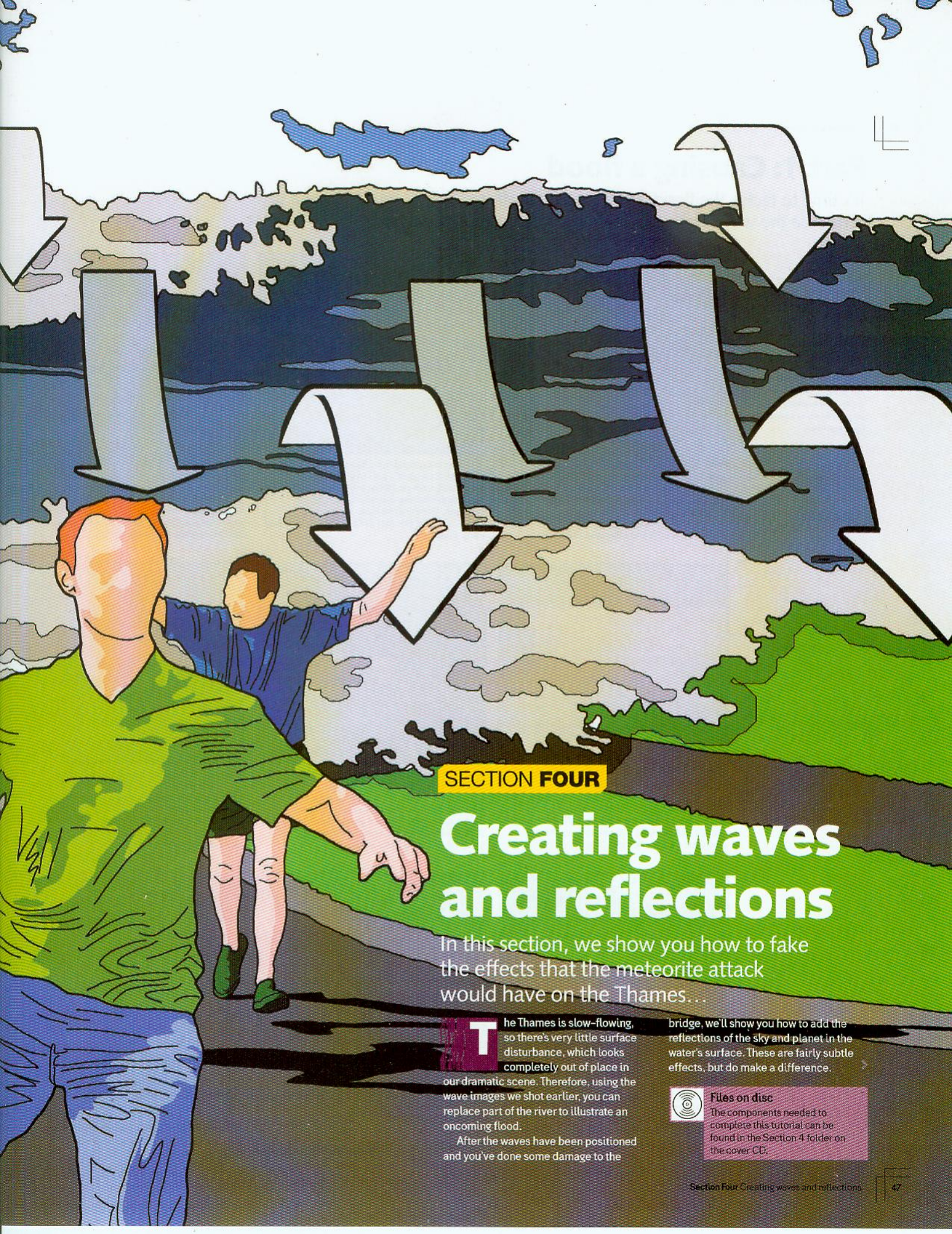
7 Even though the smoke is quite transparent, if you zoom right in, you'll see detail that you wouldn't see if the image was as blurred as our backplate, especially at the emission end. Therefore, as before, re-link the layer and layer mask, and Gaussian Blur the smoke by a couple of pixels (although smoke in the background will be blurred more than that in the foreground).



8 Finally, you need to determine which of your elements the smoke should be positioned behind. It should be on top of most elements, unless you've positioned your smoke right in the foreground. When you've added all the smoke, group them into layer sets depending on smoke positioning — foreground smoke, background smoke and so on.



9 Here we've included the rest of the smoke trails. Smoke colours have been amended slightly using Hue/Saturation. Not every intense trail has to emit from a fire; again, try to keep it subtle in places. We don't want to end up completely covering everything in smoke. **cap**



SECTION FOUR

Creating waves and reflections

In this section, we show you how to fake the effects that the meteorite attack would have on the Thames...

The Thames is slow-flowing, so there's very little surface disturbance, which looks completely out of place in our dramatic scene. Therefore, using the wave images we shot earlier, you can replace part of the river to illustrate an oncoming flood.

After the waves have been positioned and you've done some damage to the

bridge, we'll show you how to add the reflections of the sky and planet in the water's surface. These are fairly subtle effects, but do make a difference.



Files on disc

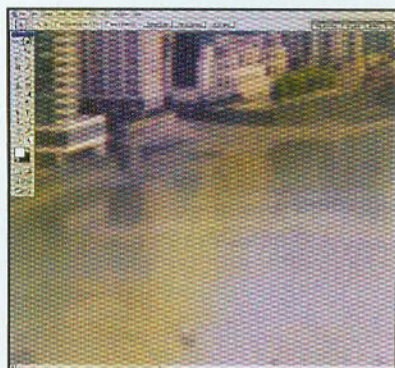
The components needed to complete this tutorial can be found in the Section 4 folder on the cover CD.

Part 1: Causing a flood

It's time to tackle the flood. To get the right effects, you're going to have to scrutinise the wave shots and paint out any problem areas...

Water levels

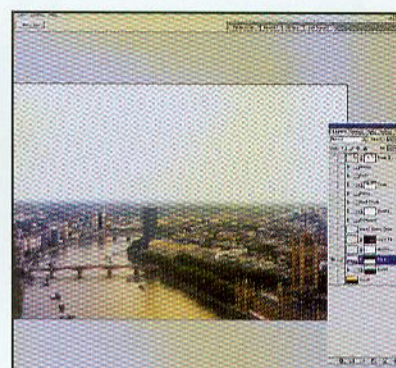
Because the top of the river is going to be flooded, the waters can be raised considerably. Luckily, there's a mark to follow because the image was shot when the water levels were low — just use the top of the Thames wall as a guide to your mask. Don't worry about going over the edges, because you can add some extra spray and waves to hide this on separate layers if necessary.



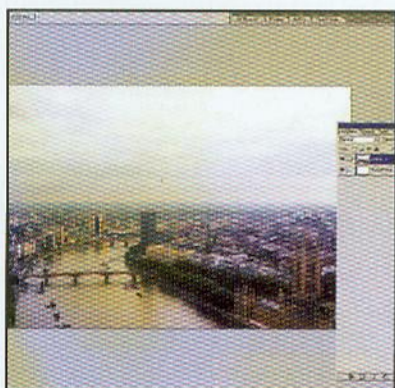
1 To get the effect right, you'll need to do a fair amount of leg work. Unfortunately, this means painting a manual mask of the river. There's no easy automated way to do this because of the change in colour, tone and shade over the river's surface and due to the objects and reflections on the river.



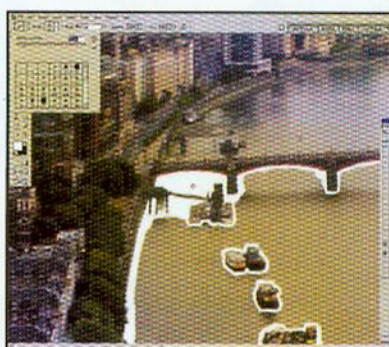
2 This may sound like a daunting feat, but it's not. It's a bit of a pain to do, but quite therapeutic to block-fill the entire river white after carefully positioning and editing composite elements. There are two ways to do it: tracing around with the Pen tool and then filling, or simply using a brush.



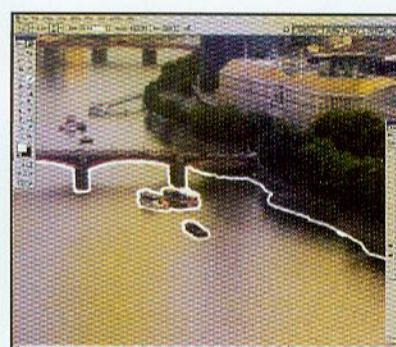
3 We suggest you use the brush, because it gives you extra control just in case you go over a few edges; with the Pen tool, you'd have to redraw pen lines, which is more difficult. To enable you to move more freely and more quickly over the canvas, turn off all layers apart from the background one.



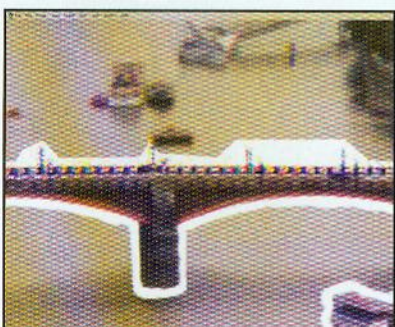
4 Alternatively, load in a copy of the background plate and create the mask on a new image. You can always load the mask from the new image later on. Additionally, you can also use this mask when you create reflections later on.



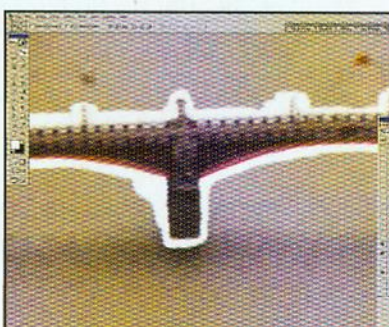
5 Start by creating a new layer on top of the background plate and labelling it Thames Mask. Then it's just a case of going around the edges of the bank of the Thames. With a small hard-edged brush (you can always blur afterwards), start at the bottom left corner and work your way upwards, outlining boats as you go.



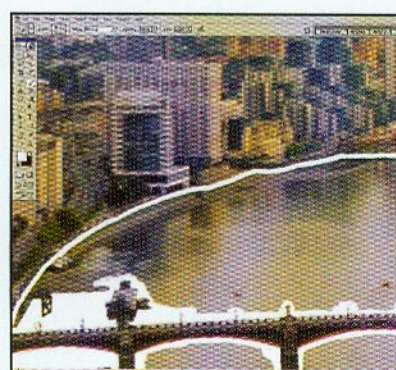
6 Pay careful attention where water meets land around the bottom half of the river, up to the first bridge. The bridge's underside should be outlined carefully. The top is going to take some extra effort because of all the fine detail, but by using colour selection and replacement, you can make this task a lot easier.



7 Select the top railings of the bridge using the Lasso tool, and put a copy on a separate layer. Using brightness and contrast and/or curves, adjust the intensity of the layer so that dark areas become darker and light areas lighter. It's not a perfect result, but because there are going to be floods beneath it and possible white water, it doesn't have to be.



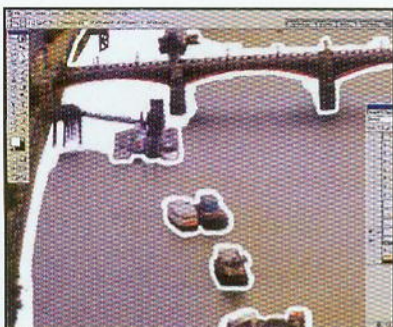
8 Using this layer, it's a relatively easy process to add the white part of the layer to the painted mask layer. Load in the layer's transparency as a selection, and using Colour Range selection, select the white areas of this layer. Create a new layer and hide or delete the bridge cutout and fill it with white. Make any necessary clean-ups with the Eraser tool and merge it into the painted mask layer.



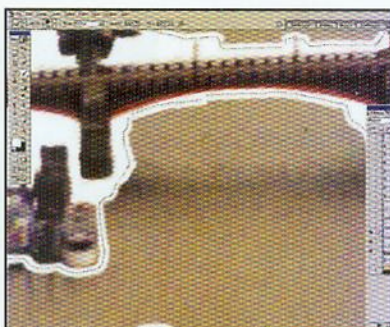
9 Next, paint in the top part of the river. Don't worry about being too meticulous over some of the finer work around this area, because it'll be covered in flood water anyway. Imagine the water level has risen, and paint in the mask around the bank edges accordingly.

Damaged bridges

Instead of keeping the bridges in the scene, try removing them or destroying part of them by having water flow over them. Included on this month's cover CD are several other wave images, so you can use them to give the impression that a wave has surged forward and impacted with the bridge, showering white water and debris everywhere.



10 With all the outlines painted in, fill in the spaces with white to be used in the layer mask. If you've got more than one layer that makes up the mask, merge them down to one layer. Using the Magic Wand tool set to a Tolerance of 32, with Anti-aliased and Contiguous enabled and Use All Layers disabled, select an unpainted area of the river's mask.



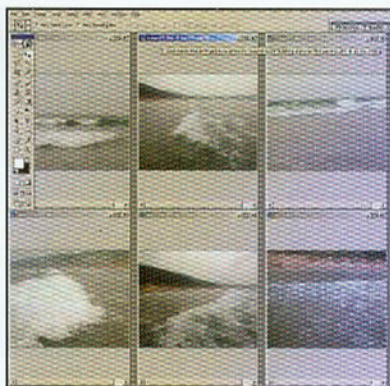
11 With this area selected, hold down Shift and select the other areas of the river so you've got all areas selected within your guides. Next, on a separate layer so that you don't accidentally fill in your bridge barrier work, expand the selection by going to Select>Modify>Expand and set the expansion to 10 pixels (or approximately half the width of the brush you've been using).



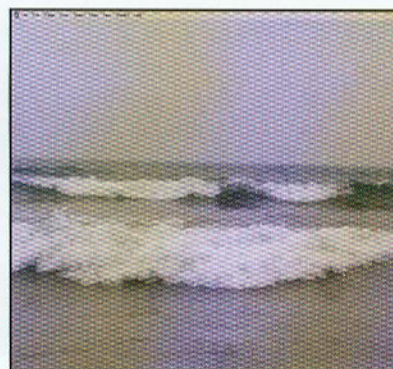
12 This expansion has now intersected the white lines halfway, so you can now safely flood-fill this selection on the new layer. You may notice some areas are not fully filled – this is due to erasing or different brush softness. To rectify this, simply touch up the problem areas on a new layer then merge them all together, ensuring that any detail in the foreground bridge's railings isn't blotted out.



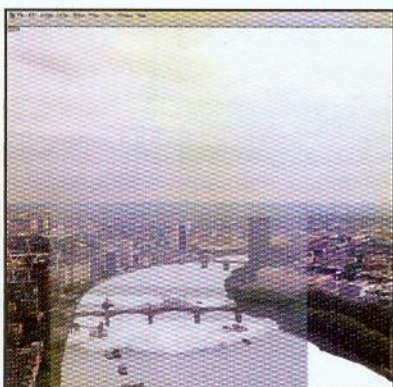
13 After dropping in the pre-shot waves, you can amend the mask as needed by painting in the desired parts. For now, the last thing to do is blur the mask template slightly to remove any hard edges, then you're ready to bring in the waves.



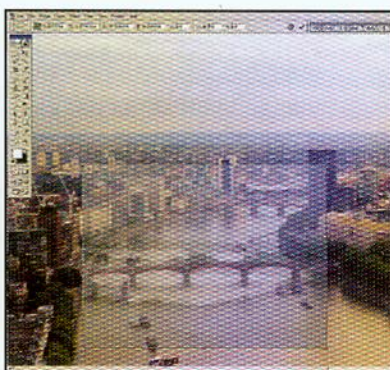
14 Load in the waves photos from the cover CD. You need to choose the right images so that extra painting is kept to a minimum. If you're introducing a lot of waves, they need to follow the contours of the river so as not to look out of place.



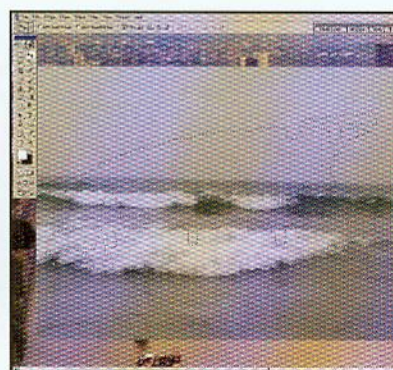
15 The wave04.JPG image looks promising – it has two waves in the image, one with white water and another which is just about to break. This image is ideal for the bridge in the foreground because the white water can flow underneath and through the bridge.



16 Drag and drop the wave04.JPG image onto the canvas. Because of the size of the canvas and the size of the photo, the photo looks about the right size. Set the wave's opacity to 50 per cent and position it in the desired location.

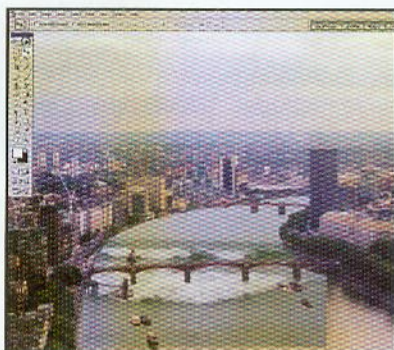


17 The wave still seems slightly large, so with the Transformation tool, uniform-scale the wave layer so that the wave is almost end to end across the width of the river. Because of the shape of the wave, you can simply add extra splashes to either end to suggest white water rushing over the edges.

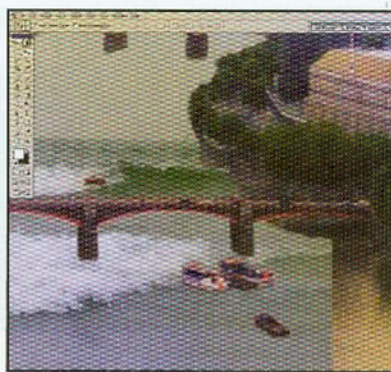


18 Set the layer's opacity back to 100 per cent. Now use your white background layer to mask out the edges of the wave. Turn off the mask outline layer you've painted, select the wave layer and Ctrl-click the mask outline layer to load in its transparency information as a selection.

Causing a flood continued...



19 Click on the wave layer's Add Layer Mask button to use the selection as a mask for this particular layer. You'll see immediately why we spent so much time preparing and waiting for the right weather conditions for our wave shoot. Apart from colourising and editing the water, the luminosity is just about right.



20 Looking closely at the layer mask, the right-hand side isn't right – the water level needs raising. Also, the areas around the base of the bridge are too sharp, so you need to break them up a bit by painting black on the layer mask with a diffused brush.



21 Next, you need to paint out the water from beneath the white water to suggest that all was calm before this flood came down river. With the mask sorted out, you can extend the extremities of the white water by either re-scaling the water or using the Rubber Stamp tool to paint in more water on the right-hand side of the river. Also, add white water gushing over the left-hand side of the river.



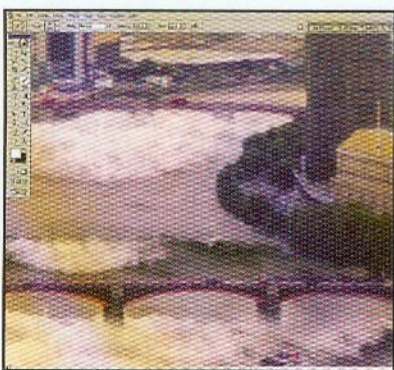
22 Add water gushing around the base of the bridge by using the Rubber Stamp tool and sampling white water from the wave layer or one of the other wave images on the cover CD. Introduce the wave into your composite and position it around the top bridge, editing as before. Blend the two images together.



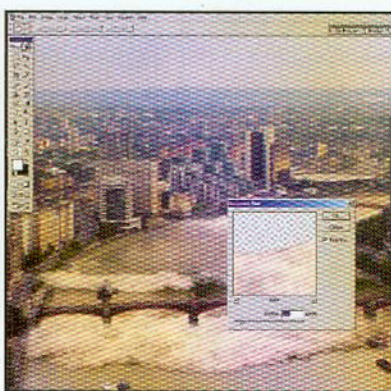
23 With the two waves blended, you can add some extra foam if desired by introducing or using the Rubber Stamp tool to paint foam on the canvas. Adjust the levels of the wave layer so the dark and light areas match up with the background, and use Hue/Saturation to tint the water so that it matches up with the original backplate's water.



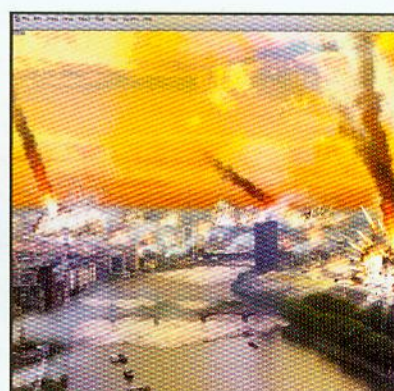
24 As the water comes right up to the edges of the river, we've occluded some of the existing reflections in the river. To get around this, either paint in extra foam onto a new layer and tint as necessary to match, or, using a large diffused brush, paint black on the layer mask to reduce the opacity of the wave layer slightly so the reflections can be seen.



25 Even with the murkiest waters, you can still see beneath the surface in some instances. To illustrate this, and to reduce any masking problems on the right-hand side, use a large brush as before to paint black over the area of water beneath the trees – just enough to see under the surface a little.



26 To keep things consistent and to match the background image, Gaussian Blur the wave layer to match the backplate. Un-link the layer and layer mask, because you don't need the mask to be blurred further. Blur the layer and re-link the mask.



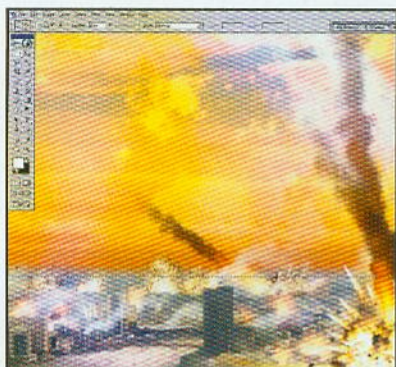
27 Re-enable all of the other layers, and this is the result. Using this pre-shot footage was very easy because our preparatory work was thorough, meaning there was very little clean-up work to do when it came to putting everything together.

Part 2: Adding water reflections

Although we've introduced some of the reflections from the buildings into the scene, we also need to add a few reflections of the sky and surrounding destruction...

Positioning objects

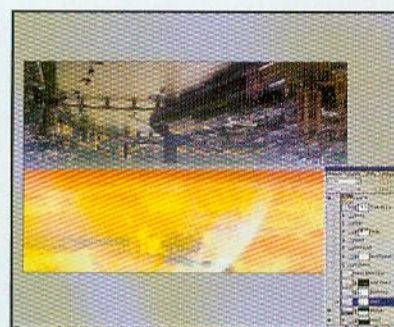
As the majority of the water surface is now turbulent due to the flooding, you can get away with not being too precise with your object's positioning. Compare the original reflections in the original backplate with the reflections in the wave samples included on the CD and you'll know exactly how much to blur each object depending on which water surface your object is reflected in.



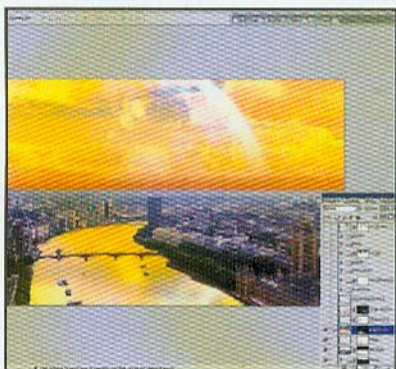
1 You might think that creating a reflection on the water's surface would be an easy task – simply taking the top half of the image, flipping it, blurring and using the mask that's already been created to mask out any unwanted parts. Well, you'd be partly right.



2 If the water stretched right to the horizon and there were no other elements in the scene, such as buildings, bridges and so on, then you wouldn't have a problem. But it's not that simple here. If you look at the original backplate, objects near to the surface of the water are reflected first, so you need to clone elements of your scene and re-order them so that the reflections look convincing.



3 As the shot has been taken from a specific angle, and due to the original blurred reflections, you can get away with having to clone only specific elements to make the reflection believable. Start by hiding all layers apart from the background, sky and planet. Then create a duplicate merged image, flip it vertically, and bring this flattened image back into the scene.



4 Re-order the layers so that this new layer is situated on top of the waves you've recently created, and use the waves layer and previous mask template's transparency information to mask out everything apart from the waters. Un-lock the layers and Gaussian Blur the layer (not the mask).



5 Re-link the layer and layer mask, and set the layer's blending type to Soft Light. Next, clone some of the elements that will be reflected in the water, such as smoke and fires, explosions and meteor trails (although some reflections like fires can be faked by painting in glows later on). Again, re-order these new layers so that they're positioned above the blurred sky reflection.



6 Flip each of these new layers vertically. Reposition each one so that its distance to the surface of the water is mirrored in the river. To double-check this, take references from the existing reflections in the waters of the original backplate and think about how close each element is in relation to these original reflections.



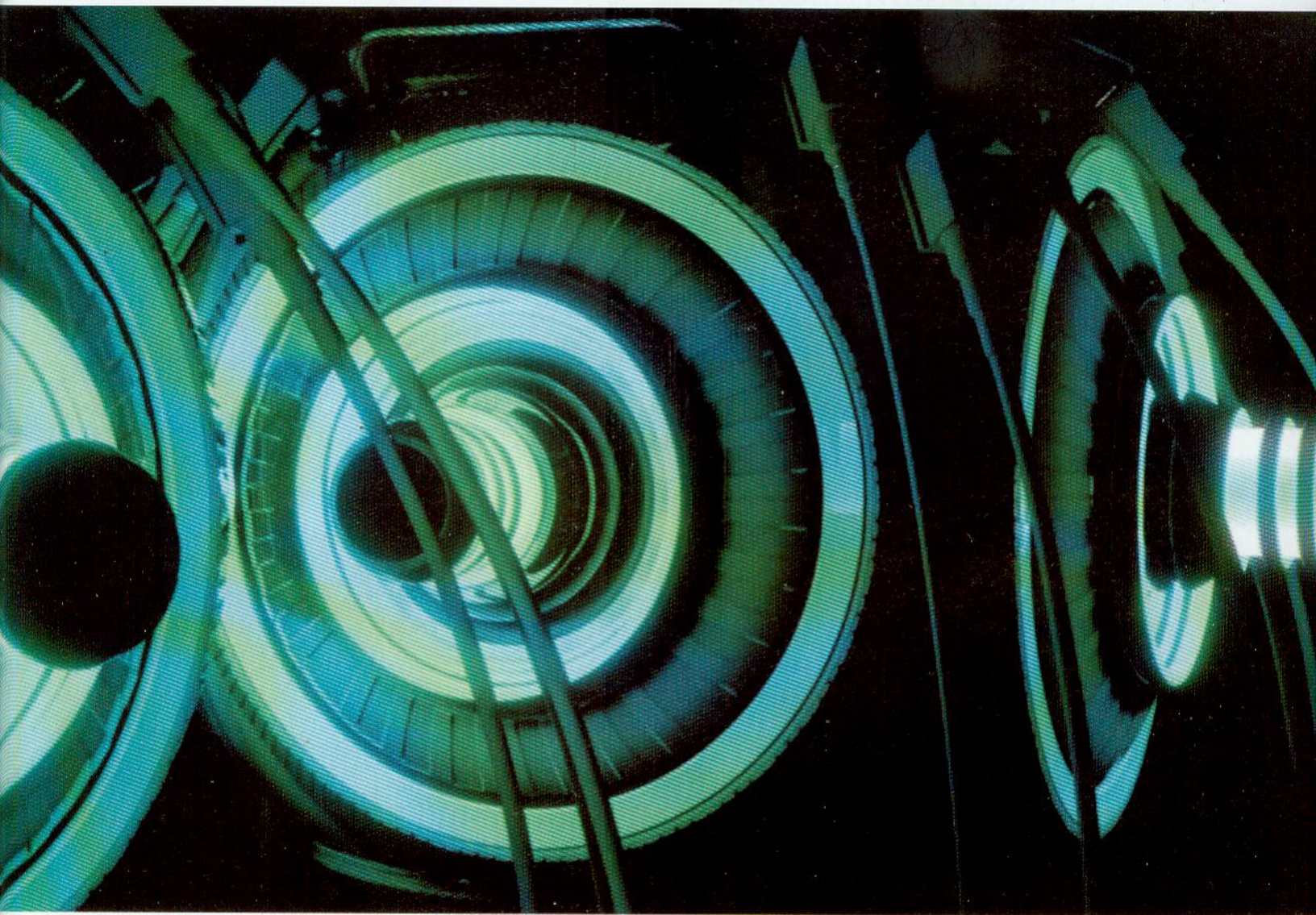
7 Mask out the reflections so they're tucked behind the bridges and also any existing reflections in the water. Don't forget that because you're viewing the scene from a different point of view, these elements will have to be re-masked or it'll look too fake.



8 Next, blur each reflected element by the same amount as the flipped background to simulate surface distortion. Elements very close to the water's surface or on the bank will not be as distorted as the others, so if you have objects close by, perform a Gaussian Blur with a slightly lower intensity than the others.



9 Finally, you can merge all of these layers together and set the blending type to Soft Light as with the other layer. Don't merge down into the other Soft Light reflection otherwise these reflections will be even less visible. As the water is murky and choppy, the reflections are greatly diffused; in such conditions, you're just after a subtle suggestion that there are reflections in the water. **CA-P**



With all of the elements now dropped into the composition, the only thing left to do is to clean things up a bit. Looking at the results we've achieved so far, a couple of things stand out as quite obvious problems.

First, the lighting is all wrong — there should be illumination around the base of the explosions and on adjacent buildings, and these should cast some shadows, and so on. The other problem is the colour of the bottom half of the image, which needs to be matched up with the sky.

Part 1: Faking illumination

You need to work out how the light will behave in your impact zone and how you're going to create it, before putting brush to canvas...



1 To get the illumination right, you're going to have to paint almost every building within the vicinity of the explosion individually. This might sound like a tedious task, but it's relatively straightforward. A lot of the smaller buildings can be simply washed over due to light completely covering them, but the larger buildings are going to have to be painted more accurately.



2 First, you need to determine which sides are illuminated and which sides aren't. Now this might be stating the obvious, but you have to remember that the explosion is casting light outwards from its centre, therefore buildings on the opposite side will have their front sides illuminated while the ones on the left will have their right sides illuminated.



3 All of this makes for tough work, but if you concentrate on the illumination of the main hero buildings, you can just add extra detail to the smaller ones later on if desired. Bear in mind that due to the intensity and sheer height of the explosions, a lot of the smaller buildings are going to be almost totally whitened out.



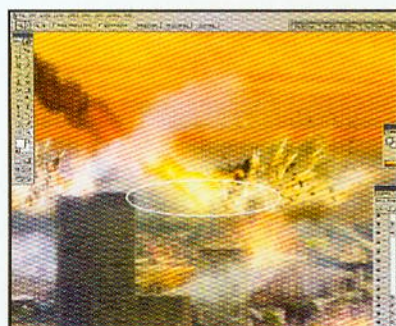
4 To perform the illumination, paint directly onto a copy of the background plate using the Dodge and Burn tools to simulate light and shade. Don't paint everything in one go, but build up intensities subtly so you've got a nice falloff of illumination the further away from the impact site you go.



5 Take into account the illumination from the smaller explosions. You can keep the intensities down for now because extra glows can be added later on to boost the flames and the lighting effects.



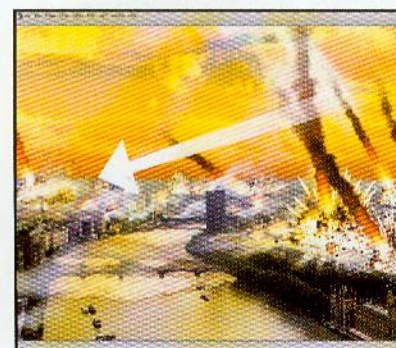
6 In addition, the majority of these explosions peek over the tops of buildings, so a smaller building will have to have its roof illuminated. Also, any buildings with slanted roofs should be illuminated on the away-facing side because they'll catch the light from the flames.



7 Extra illumination will originate from the meteor trails themselves, so paint in subtle lighting from these light sources. As the light source is coming from above in these instances, you can highlight the roofs and buildings in the vicinity of the glowing end of the meteor's trail, but don't make it too intense, because it's not all that bright in comparison with the other explosions.



8 There are two other strong light sources in this scene. One is the illumination from the backlit clouds in the background. The lighting effects on these can be quite subtle because it's not a main key light but more of a diffused light source. The other light source is the sun, which is off screen.



9 This wouldn't need to be painted in if the lighting on the backplate was correct, but as the sky suggests two light sources (the sun and the colliding planet) you'll have to add some illumination to the backplate to simulate sunlight passing through cloud. As the clouds are broken, you need only paint these areas in places.

Light falloff

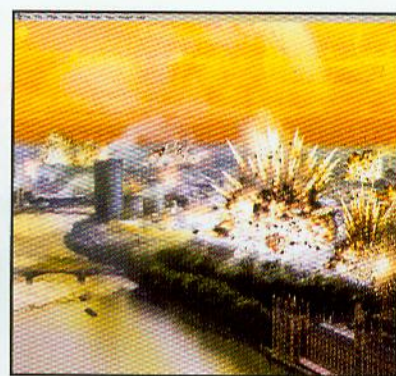
When you're painting the light around the impact zones, ensure that you maintain a nice light falloff. Don't be tempted just to cut off the light at a certain point; continue painting outwards from the impact site. Also bear in mind that larger buildings may occlude light, so buildings behind them may not be illuminated as much or at all.



10 To start with, clone the backplate and turn off the original layer. Using the Dodge tool, set to Highlights, select a large diffuse brush and, with a low exposure setting, brush over the impact area to lighten it up a little. Reduce the size of the brush and follow the contours of the explosion and fire trails as they meet the ground.



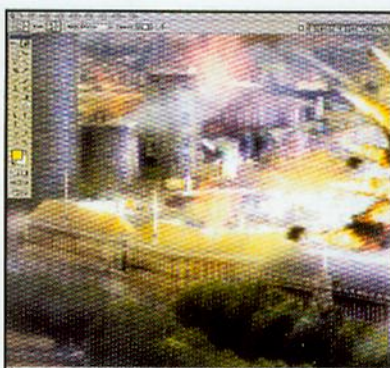
11 Lightly dodge all the buildings on the far side of the explosion and work your way around, paying careful attention to the angle of the buildings and the direction of the light being emitted from the explosion. Follow the buildings around the impact area still using the same intensity, and when you get to the other side, simply outline the buildings a little to suggest glows on the opposite side.



12 With one pass of the illumination complete, work your way around again, going over what you've already painted, therefore increasing the building's dodge intensity. Keep on working further inwards for a couple more passes, until you've got a visible gradient of intensity.



13 Change to a small soft brush, and work your way around the edges of buildings, picking out detail. Use this for areas of bright illumination, or reduce the intensity further and pick off finer detail further away, such as cranes, antennas, flagpoles, and the like.



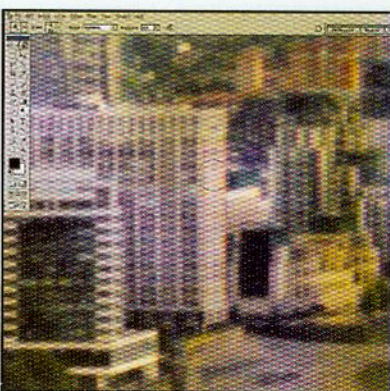
14 With the Dodge tool still selected, hold down Alt (or switch to the Burn tool, set to Midtones or Shadows) and, with a medium-size brush, brush over the opposite sides of the buildings to darken them a little, creating a greater contrast between light and dark.



15 Using the Burn tool and a smaller brush, paint in soft shadows around the base of buildings that trail away from the impact explosion. Next, with a medium-size diffused brush, lightly dodge around the areas where local fires are situated. As these are small fires, there's little need to burn in shadows.



16 Next, using a large diffused brush, lightly dodge the horizon line, paying careful attention not to overlap buildings. Using a large stippled brush, drag Dodge and Burn lines vertically down from the horizon line to suggest gaps in illumination and slight shadows from light being emitted from the colliding planet and backlit clouds.



17 Lightly brush over most buildings to suggest sunlight from off screen to the right. As there's a lot of illumination already in the scene from the impact explosions, don't detract from this too much, so just give a hint that there's a key light off screen.



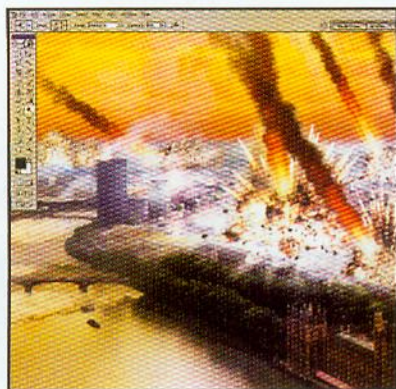
18 Here's the final illuminated backplate. The rest of the impact explosion sites have been illuminated, as has some of the finer detail in the scene. Finally, extra glows around smoke emission sites have been added, plus a few other glows to give the impression of fires that can't be seen. The painted layer has also been cloned and set to Colour Burn with an opacity of 30 per cent to intensify dark areas and colours.

Part 2: Colour grading

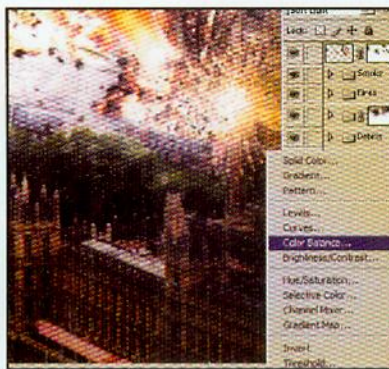
Because the background plate and all of its composited elements don't match up with the sky, you need to amend the overall colour of all layers, apart from the sky and planet background...

Make copies

Never be destructive when working in Photoshop. Even though you have numerous undos in the form of History, even switching blending types takes up one history event. So if you paint on one layer then switch its blending type a few times, there's no way you're going to get it back. Therefore, always work on a copy of the layer.



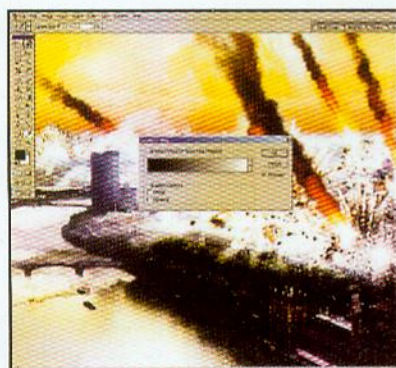
1 The first problem is how to grade everything in one go, except the skyline. If it was just one layer, we could use a clipping layer. Technically, you could do this for every layer, but duplicating a ton of clipping layers would be messy.



2 You could also colour-correct each layer, to avoid having a ton of clipping layers to navigate through. This would work, but would be a destructive procedure; apart from loading in the scene (or relying on the History of the image) there would be no easy way to get back the old colours.



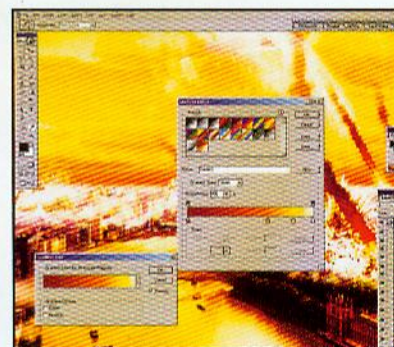
3 Therefore, use a standard adjustment layer, but perform the colour correction on just the required layers. For this, you need a detailed layer mask to ensure that only the required areas are affected. As you're going to have to tint the image more towards the horizon, where the colour is strongest, you need to use a gradient to control its intensity.



4 First, sort out the colour correction. Right at the top of the layer stack, add a Gradient Map layer. OK the gradient and set its layer blending type to Overlay. Double-click the gradient layer to re-enter the Gradient Map box and then click on the gradient so you can design your own.



5 Design your gradient to overlay colour depending on the brightness of the background colour. Your gradient should have colour samples from the sky background, so create flags on the underside of the gradient – one at 65 per cent and one at 85 per cent.



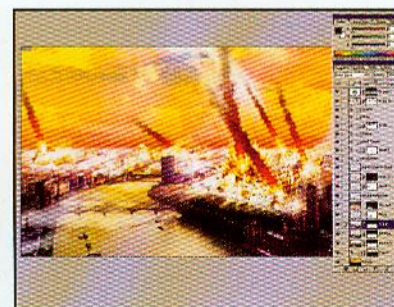
6 Exit this dialog and turn off the gradient layer. Point-sample four colours from the sky – say, a dark orange-red, an orange, a yellow and an almost-white – and note down their colour values. Back in the Gradient Designer, enter these colour settings: 0, 65, 85 and 100 per cent. Add the gradient to the palette and click OK to exit the designer.



7 Next, as the gradient affects the entire image, flood-fill its layer mask black. Press D to reset colours. Use the backplate's mask as a selection by Ctrl-clicking on it, and flood-fill the gradient's mask white using this selection. Flip the reset colours by pressing X, and add a vertical black-to-transparent gradient so the gradient fades off the 'nearer' it gets to camera.



8 Move the gradient's mask up a little so it blends in with the sky. Load in the selections for all of the meteor trails, and flood-fill this selection white in the gradient's layer mask. Do the same thing for the impact debris, but fill it with an off-white to reduce the gradient's influence.



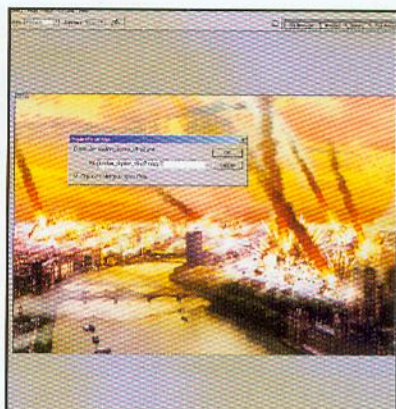
9 Work your way forward, filling in selections depending on distance from the camera. For example, the far explosions and debris should be shaded a lighter colour in the gradient's mask, while nearer elements, such as the Houses of Parliament, should be a solid darker grey. Ensure that all buildings are solid shaded, otherwise a gradient effect will be visible. Also, sort out the gradient for the smoke (see side-column tip on opposite page).

Part 3: Glow effects

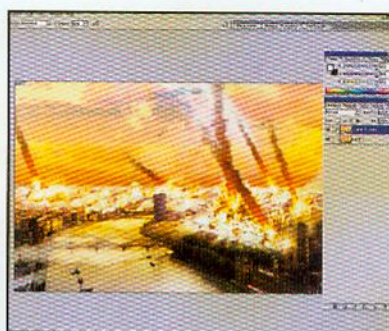
With the scene nearly finished, you can add extra glow effects on some of the impacts and fires, and whiten out some of the explosions...

Subtle glows

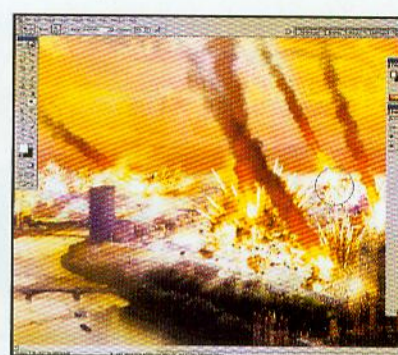
Ensure that any areas where you've added smoke but can't see the original burning material have a slight glow to suggest that there's a fire situated behind one of the buildings. In addition, illuminate the smoke slightly around this emission point and around any areas where smoke passes in front of burning material.



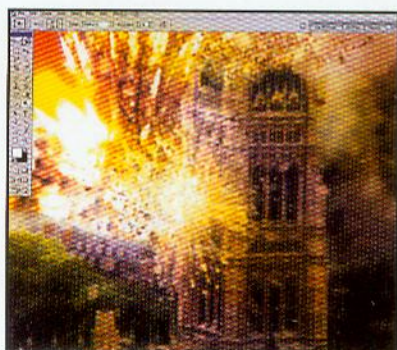
1 You now need to work on a single layer, so save your work, and go to Image>Duplicate. In the resulting pop-up dialog, select Duplicate Merged Layers Only and click OK.



2 Due to the amount of layers, and depending on the speed of your machine, this may take a while to process. The resulting image is a single layered image, onto which you can paint your effects directly. You're embarking on a 'destructive' process, so clone the layer and turn off the original, and make regular copies to ensure you've got something to fall back on if you make a mistake.



3 Start by brightening up the meteorite trails a little. Select the Dodge tool and a large diffused brush with a very low exposure value. Lightly brush over the impact ends of the trails to intensify their brightness a little, and to create a slight glow around them and the area where the trail meets the explosion.



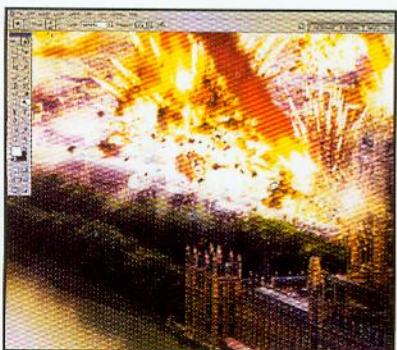
4 The impact on the side of the tower structure to the right of the right-hand side impact explosion seems a little too dark in places. Select a small brush and lightly run over the detail on the surface of the tower around the impact area. This will place highlights on the areas that would catch the most light.



5 Observing the shape of the main Parliament buildings, paint in small highlights where you think the light from the explosions would illuminate the surfaces. As this building has slanted areas – high and low roofs in relation to the explosion positioning – be extra careful where you place highlights. Also ensure that their intensity trails off the further away you get from the impact.



6 The buildings directly underneath the initial impact explosion next to the Houses of Parliament aren't illuminated enough. Therefore, using the same fine detailed brush you've been using to highlight the Parliament building, intensify the illumination.



7 As these buildings won't live to tell the tale, you should whiten them out further. Select a large diffused brush and gently wash over the small highlights to intensify them and to blend their shapes in with the actual explosion, thus giving the impression that the explosion has swallowed them up completely.



8 Because the explosion is now exceptionally intense, you'll need to add a few more light rays coming from the blast zone. Randomly sticking in rays won't do, so pick out gaps in the surrounding foliage and buildings, and using a small brush (about the same size used to pick out the building's highlights), drag out some small rays from these areas.



9 Speaking of the foliage, intensify the highlights at the top of the trees alongside the explosion using the same small brush. Don't just run over the edges of the trees; the explosion is quite high and the trees are low with 'curved' top surfaces, so the light will flow over the tops of the trees, picking out bunches of leaves.

Part 3: Glow effects continued...

Grey smoke

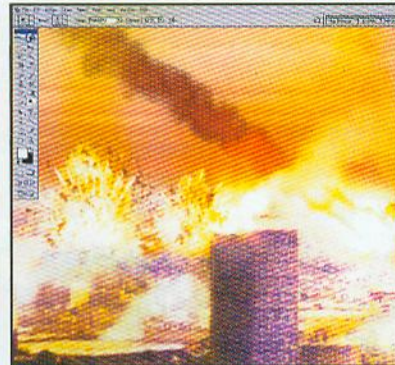
As the smoke is transparent, simply filling in colour in the gradient's layer mask will make the smoky area appear less or more bright compared to its surroundings. Therefore, load in the selection for the smoke and minus the selection for the gradient's layer mask. The resulting selection will be that of any area that's sticking out over the horizon, which can then be filled in the gradient's layer mask using the desired shade of grey to simulate depth of field.



10 As the light from this explosion is very intense, you need to emulate this in the reflection of the foliage in the water. Using a large diffused brush with a very low exposure setting, brush over the area next to the foliage reflections. Next, using a medium-size brush, run over the edges of the reflections to pick out any highlights from light peaking through the trees.



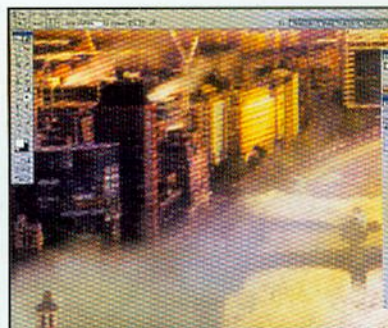
11 Work your way around the opposite side of the impact site using a very small brush, and pick out any reflective highlights and detail which would reflect light towards the camera. Brush over these lightly and build up intensities in specific areas gradually.



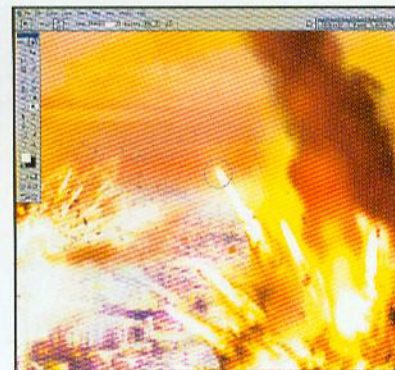
12 Next, using a medium-size diffused brush, wash over some of the fires that you've positioned in the scene. Change to a smaller brush and intensify the base of the flame and the neighbouring building to blend together and remove any seams.



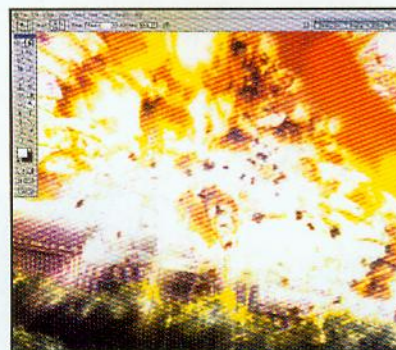
13 Around the base of some of the smoke stacks, where you can't see any fires or glows being emitted, use a medium-size brush to illuminate the base of the smoke. This will give the impression that there are lower intensity fires burning at locations that are lower intensity than the main explosion.



14 Because of the brightness of the impacts in the foreground, buildings on the opposite side of the river are going to have the light from these impacts reflected in the windows and illuminated on their facing walls. Lightly brush over the right side of the buildings to illuminate the walls, then go over the windows with a small brush to create reflections in the glass.



15 Each impact explosion's set of fiery trails is quite intense, so you need to add a slight glow to each of them to illuminate the air around them. Use a medium-size brush with a medium exposure and just touch over each trail to add a slight glow right at the end of the trail.



16 The black debris should be slightly lighter than it currently is. Change the Dodge type from Highlights to Shadows and, using a small brush, lighten the sides of the large debris, which will reflect the light of the explosion. Smaller debris can just be washed over because the explosion's glow will illuminate it.



17 You now need to touch up the sky a little by intensifying the air around the furthest explosions. Brush a low intensity arc using the Dodge tool set to Highlights and a large brush. Add extra horizon effects if desired by brightening up this area and using stipple brushes to suggest explosions in the distance.



18 Here's the image with the rest of the explosions and debris illuminated using the same principles. Also, some of the clouds have been touched up and the planet intensified to match. If you think the end result is too intense, you can fade out specific layers to reduce the intensity overall or in one particular section. This is the beauty of working on a copy of the original layer and/or having multiple layer copies from working in stages around the scene.

Part 4: Final processing

As the original backplate was slightly pixelated, we're going to have to apply this pixelation right across the image so it all matches up. First, though, the levels and colours need tweaking...

Submitting PSD files

At the end of this project, you're going to have a PSD file which is hundreds of megabytes in size. Submitting this to the client isn't feasible. Always send a low-res version for approval and a final collapsed version for print. Archive the layered version, plus a copy in case the original file gets corrupted. Also archive a low-res copy for previews.



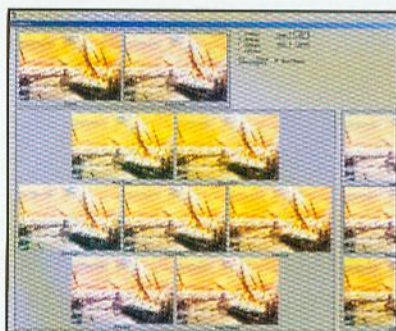
1 The image is almost complete, but there are still a few things to do. First, some of the colours are coming out too purple thanks to the multiple overlays, gradient colourisation and the like, so you need to reduce these or change them to a colour more suited to the background.



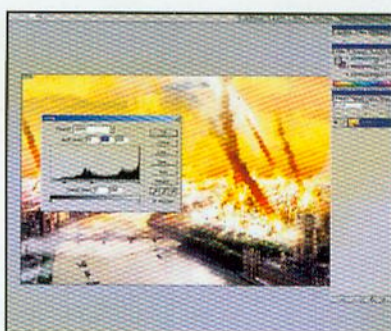
2 To do this, use the Replace Colour feature. If you're using multiple layers in your dodging process, save the PSD then flatten the image. Next, go to Image>Adjustments>Replace Colour and using its Eyedropper tool, select one of the prominent purples from the tall building in the centre of the canvas.



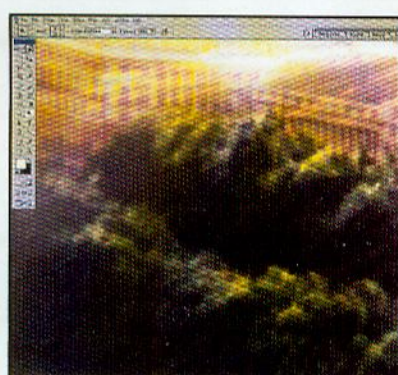
3 Increase the Hue slider until you get to a nice orange colour. If the result on the main canvas is too pixelated, increase the Fuzziness and/or try adding a couple of purples to the selection. Once you've got a setting you're happy with, click OK to apply. If you're getting unwanted effects like additional colourisation, restrict the amount of point samples and/or perform the colourisation on a new layer and paint out the problem areas.



4 Now that the shades are consistent, you might want to tint the entire image further. Instead of having to play with the settings for an age to get it right, you can simply go to Image>Adjustments>Variations and pick which image you like from the resulting selection. Select one, and the process runs again. Keep choosing the one you prefer until you find an image you like.



5 To finish off the colour tweaking, you should adjust the image's levels to get the right mix. Go to Image>Adjustments>Levels and amend the sliders for each colour as desired until you get the right amount of saturation for each one. You may find that using the Auto feature works best. If the result is too intense, fade the levels by going to Edit>Fade Levels and amend as desired.



6 Because the original plate had a lot of grain from the negative scan, you're going to have to emulate this using a filter. As the backplate has already been merged with the other elements, you'll have to apply the noise to that as well, but if you get the settings right, it should blend together nicely.



7 Although the intensities can match up, the scale of the film grain will not. Therefore, add a new layer to the composition and fill it with a CMYK: 100,100,0,100 black. Set the layer blending type to Screen and tweak the noise intensity until it's about right. Using the Transformation tool, scale up the noise layer and blur it slightly to match the quality and size of the original noise.



8 Using the Screen blending type means that whites aren't degraded. Therefore, clone the noise layer, invert and set its blending type to Darken. Turn off the two noise layers. Use the Colour Range selection method to perform a selection on solid white, increase the fuzziness a little and press OK to apply. Enable both noise layers again and create a layer mask on the Darken layer. Blur the mask and reduce the Opacity of the noise layer to about 5 per cent.



9 The processed image look that has been achieved here gives the scene a Sci-Fi feel. You can still tell that the skyline is of London, but the fake elements and colourisation make the scene look extreme – something you wouldn't see in real life. A short exposure has also been faked due to the amount of contrast; the explosions kick out a lot of light so too much exposure would completely whiten out the scene. **CA-P**



30 Photoshop *faking tips*

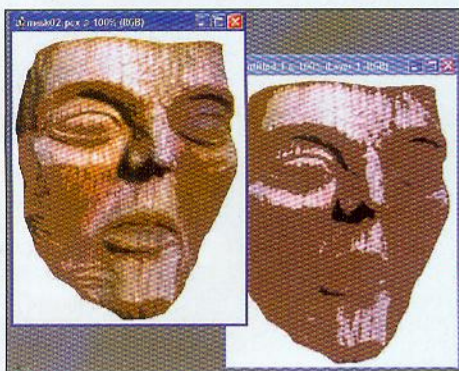
We bring you 30 tips, shortcuts and little known facts to enable you to fake effects like the experts...

Want to make your pictures look better than life? *Photoshop's* the perfect tool to do it, and we've gathered together a compact collection of the very best reality-bending tips. From banishing blemishes to smoothing

selections, you'll find shortcuts, hidden tricks and professional techniques that'll enhance your attempts at *Photoshop* fakery... >



Expertise provided by Karl Hodge. You can contact Karl at [\[e\] khodge@spodgod.com](mailto:khodge@spodgod.com)



The Eyedropper's Sample Size setting affects the Magic Wand. On the left, the image was selected with the setting at Point Sample then filled; on the right, the setting was 5x5 Average.

Making selections

1. Kind of magic

The Magic Wand tool has settings that affect the way it samples pixels in an image, but one of them is hidden in the parameters of another tool. Select the Eyedropper tool, which has only one option: Sample Size. By default, this is set to Point Sample, but you can change it so that it samples an average Hue from a 3x3 area or a 5x5 area. The size you choose also affects the way in which the Magic Wand works.

2. Fuzzy logic

The Fuzziness slider in the Colour Range tool is similar to the Tolerance value of the Magic Wand. However, it works 'live' while the colour range is active, so you can make an initial colour selection and then slide the Fuzziness settings to the right to gradually increase your selection. The slider ensures you get a smooth, realistic selection without the jagged edges or artificial anti-aliasing you might get with the Magic Wand.

3. Colour range

Though the Magic Wand tool is great for making selections within simple areas of continuous colour, the Colour Range tool is better suited to more complex areas that share the same tones. You'll find it in the Select menu — and you can select whole areas of colour by Shift-clicking within the image to add colour to your selection.

4. Drawing paths

For the longest time, *Photoshop* professionals have used the Pen tool to make complex selections. To do this successfully requires some control. Zoom into your image as much as you can while keeping it displayed. Select the Pen tool and choose the Paths icon from the Options bar. Place your first point, then click and hold to place the second point. When you drag, a curve is created — make it follow your selection as closely as possible.

5. Dangerous curves

When you're happy with the curve you've drawn, hold down the Alt key (or Command key on the Mac) to change the Pen tool to the Convert Point tool and click the last point. This action will make this point a new starting point, rather than a mid-point in a continuing curve.

6. Path select

When you've finished tracing around the shape with the Pen tool, go to the Paths palette and double-click on the Work Path that's appeared there, entering a new name. Choose Make Selection from the Path Palette menu. Feathering and anti-aliasing can be used to soften the edges of the selection.

7. Extraction

The Extract tool is the more modern way to select complex shapes with busy backgrounds. If there's a clearly defined edge, you can switch on 'smart' highlighting. In most cases, this will enable you to trace around an object freehand, while the Extract command's engine does most of the work for you.

8. Hair today

For objects with wispy or fringed edges (like hair or fur), increase the size of the highlighter brush in the Extract dialog. Trace around the hard edge, making sure that the stray wisps, fur or hairs are within the highlight. The command will extract the background and retain the hair — as long as it's continuous in tone with the main selection.



The image on the left shows a selection made with the Magic Wand — notice how jagged the edges are. With the Colour Range tool on the right, you can control the selection more effectively.



Increase the brush size of the Extract tool to sample a larger area when you've got fringed or furry edges to deal with.

9. Fade away

After an extraction, choose **Edit>Fade Extract** to fade in the original background. *Photoshop* doesn't actually remove the background — it just makes it transparent. Use the **Magic Wand** to select the transparent area, then invert the selection to select the extracted component. Cut and paste it into a new layer to isolate the extracted portion.

10. Depth of field

Adding Depth of Field is a technique that photographers use to bring the subject of the image into the foreground — and you can recreate this effect easily in *Photoshop*. Make a **Pen tool** selection of the foreground objects in your photograph, then invert the selection to select the background. Go to **Filter>Blur** and choose **Gaussian Blur**. Adjust the values of the filter until the background looks slightly out of focus.

Clone and heal

11. Clone history

To edit healed or cloned areas, use the **History brush**. The **History brush** paints an earlier state of the image over the current state. Alternatively, you can use the **Edit>Fade** command to reduce the opacity of healed and cloned areas immediately after applying them.

12. Replicated edges

It's worth noting that the **Heal tool** picks up tone from areas around it — if you use it too close to a dark or light edge, it'll bring elements of that edge into your strokes. Masking the area you work on with a selection will prevent this from happening. In the image of the man's head pictured far right, we've masked off an area of shadow so we can remove a door frame.

13. Brush adjustment

The **Heal** and **Clone** tools are brush based, so you can switch between 'standard', 'brush size' and 'precise' cursor types during use by hitting the **Caps Lock** key. You can also access brush options by pressing **Shift** and right-clicking (or **Shift-Ctrl**-clicking on the Mac) on the image while the brush is selected.

14. Legacy settings

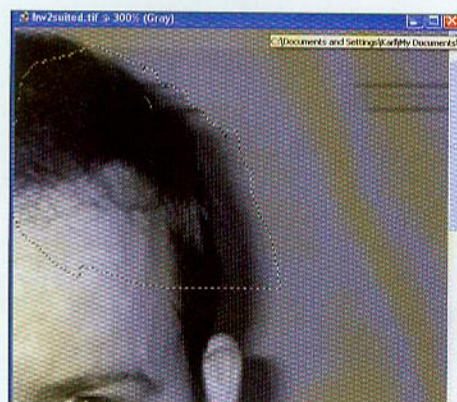
Both **Clone** and **Heal** tools use the old *Photoshop* brush options rather than the new brush engine. Right-clicking on the image brings up a detailed options dialog (see the image on the bottom-right of this page), which enables you to control the diameter, hardness, spacing and roundness of the brush. The hardness setting enables you to control how fuzzy or feathered the edges of the **Heal** or **Clone** effect are.

15. Empty gesture

The **Heal tool** can't be used in an empty layer (because it uses the layer you're working on as a reference). However, you can duplicate the layer you wish to work on and edit that instead. Then you can use the **Erase tool** to reveal the original, unedited version below.



Using a **Gaussian Blur** in the background of an image can create greater depth of field. Try a subtle motion blur when the background contains moving objects, such as cars or other people.



The **Heal tool** may seem magical, but it works by sampling pixels around it. Get too close to an edge in your image and it may end up as part of the healing process.

Compositing

16. Quick resize

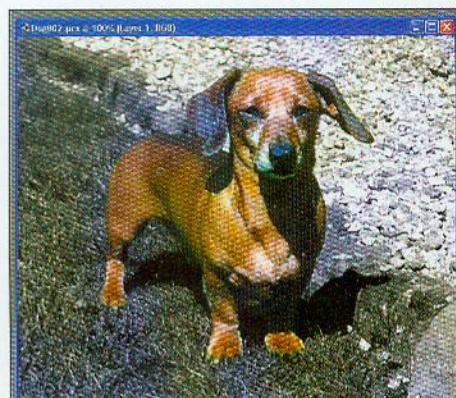
If you have two images of different dimensions that you want to composite, you can quickly make one the same size as the other by using this tip. Select the document you want to adjust and go to **Image>Image Size**. Go to the **Window** menu on the main menu bar. At the bottom of this menu, you'll see the names of both your images listed — select the other image. The dimensions for the second image will automatically be entered into the **Image Size** dialog box.

17. Layer position

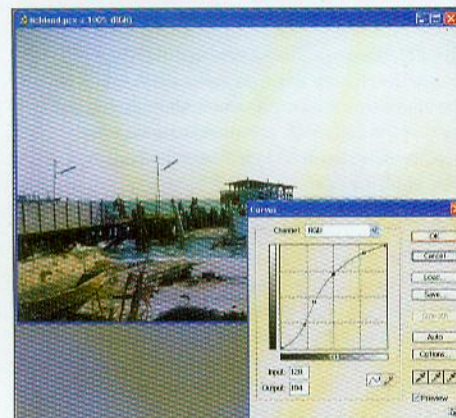
When dragging a layer from one image to another, you can centre it perfectly within the new image by dragging the layer to the new image, then holding down the **Shift** key before you release the mouse button. If you drag a selection to a layer that's the same size as the original layer while holding down **Shift**, the object will be positioned in the same place as in the original layer. ➤



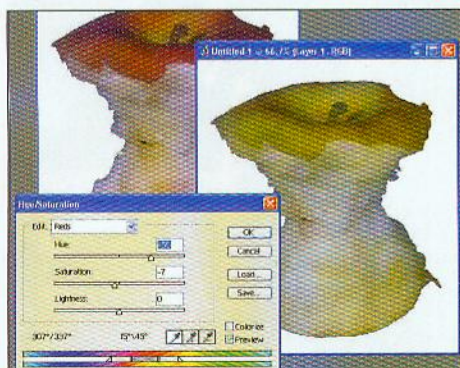
The brush options for the **Clone** and **Heal** tools resemble the universal brush settings in *Photoshop 6*. Remember that they're there — you have more control than you might think.



An artistic 'colourised' effect can be achieved without having to touch the colour controls – if you start with a good colour image and make the background monochrome.



The Curves dialog frightens away some users, but it's easier to use than it looks. The tones on the horizontal axis are transformed into the tones on the vertical axis, so simply place points to correspond.



Want to turn a red apple into a green one without affecting the rest of the image? Combine Hue/Saturation control with smart selection techniques to get a realistic finish.

True colours

18. Hue and cry

The Hue/Saturation dialog is often a better way to replace specific colour ranges than the Replace Colour dialog. For example, say you have a red apple you want to turn green. Go to Image>Adjustments>Hue/Saturation and choose Reds from the Edit menu. Now your Hue/Saturation adjustments only affect the red parts of the image. Nudging the Hue slider to the right with Preview ticked should colour the reds green.

19. Wrong colour

To make your colour selection more accurate, move the cursor over the part of the image you want to adjust and Shift-click, then drag over that area. This tip also works within the Replace Colour dialog. If you decide you've selected the wrong colours, you can reset the dialog by holding down the Alt or Command key. This changes the Cancel button into a Reset button.

20. Duotone layer

Use an adjustment layer to add colour to a monochrome image. Try opening a greyscale image in Photoshop and go to Image>Mode>RGB. Create a new Adjustment Layer by clicking the button at the bottom of the Layers palette. Choose 'Solid Colour' from the pop-up menu, then change the layer's blending mode to Colour. You can alter the saturation of the colour by using the Fill and Opacity sliders.

21. Fake colourisation

For a 'colourised' effect (see the dog picture above), select an area that you wish to stand out in a colour image using the best tool for the job, then copy it to the clipboard. Go to Image>Mode and choose Greyscale. Don't flatten the image when prompted. Instead, return to Image>Mode and convert the image back to colour. Choose Edit>Paste in Place to insert the colour selection into the newly monochrome background.

22. Desaturate

When you've finished adjusting the Hue of the selected colours within the image, they invariably appear a little too saturated. Nudge the saturation slider to the left to compensate. A quick way to do this is to select the Saturation slider, then hit the Shift key and the Down arrow on your keyboard to adjust the value by increments of ten. Pressing the Up arrow adjusts the value up.

23. Reduce opacity

If you feel you may have gone too far after applying any form of colour correction, go to Edit>Fade instead of automatically reaching for the Undo key combo. You may be able to adjust the changes by altering the opacity of the results instead. Access it quickly using the Shift-Ctrl and F keyboard combo. On the Mac, it's Shift-Option and F.

Light and dark

24. Dodge and burn

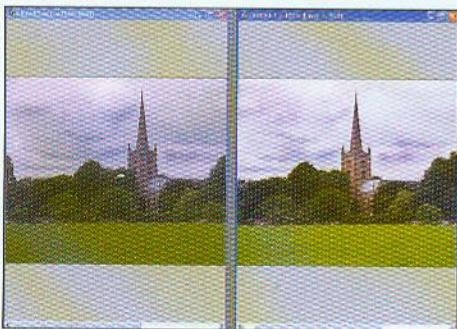
Though the Dodge and Burn tools are in the main toolbox, it's easy to forget how useful they are. The Dodge tool reproduces the effect of underexposing portions of an image, while the Burn tool replicates overexposure. Effectively, they lighten and darken areas of an image, while retaining detail that other methods discard.

25. Shadows and fog

Like many Photoshop retouching tools, the Dodge and Burn tools can be applied to Midtones, Shadows or Highlights. The Dodge tool is only really effective when applied to Midtones, while the Burn tool can be used on Highlights and Shadows to bring out specific areas of detail.

26. Draw in detail

The Dodge and Burn tools are brushes — and as such they can be used in some circumstances to draw in elements or details that are either latent within an image or don't actually exist. The Burn tool, for example, is ideal for adding shadows to objects. You



The Dodge and Burn tools can be used in artistic ways to enhance specific areas of detail. Here we've reconstructed dark clouds in this scene after a Curves adjustment, picking out midtones and shadow with the Burn tool.

can simply use an offset selection of the original object on a different layer to give a crisp, authentic-looking edge.

27. Curve control

When you need to make more global adjustments to the darkness or lightness of an image, it's tempting to go for the Brightness/Contrast command, but the Curves dialog gives you much more control over the image. Think of the Curves dialog as drawing a graph. The bottom of the graph shows the input (the image as it is) and the vertical axis shows the output (the image as it will be).

28. Tonal range

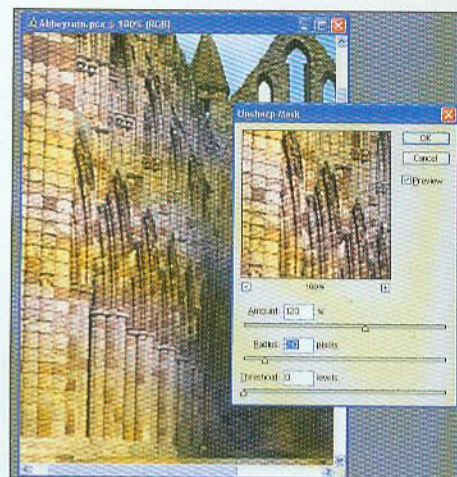
When you place a point on the Curves dialog, what you're actually doing is shifting one tonal range into another. You can see which range point you're selecting by looking at the Input axis to see how it translates on the Output axis. The curve shows the transition between tonal ranges. The smoother the curve, the smoother the transition.

29. Single scratch

To remove single scratches, marquee around the scratch then go to Filter>Other. If the background is darker than the scratch, choose Minimum; if the scratch is the darkest part, choose Maximum. The Dust and Scratches filter works best on multiple scratches. Try applying it to a duplicate of the layer you wish to alter.

30. Increase detail

Try Unsharp Mask in the Filter>Sharpen menu to give the illusion of increased detail in out-of-focus or resized images. The filter can't add detail that's not there, but it enhances existing detail by ramping up the highlights and shadows around pixels. Make sure you tweak the settings carefully to avoid a too obvious 'halo' effect. **cap**



The Unsharp Mask filter can't add detail that's not there, but it can enhance latent detail by increasing shadow and highlighting along edges.





Faking textures

On a tight deadline, you might not have time to acquire real-world textures. Create a variety of texture styles entirely within *Photoshop 7*...

Digital artists have many creative uses for textures. Web designers need textures to create backgrounds for their sites, and 3D artists require texture maps to bring their grey-shaded polygons to life. One way to create textures is to derive them from reality, using a digital camera to shoot wood, walls, water and so on. However, a looming deadline might mean that a day out with your camera is a luxury you can't afford. Follow our step-by-step guides to faking textures from the comfort of your desktop. >



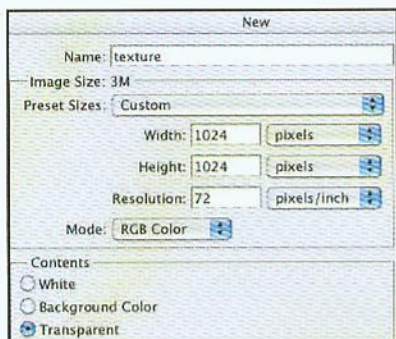
Expertise provided by George Cairns. You can contact George on [w] george@georgecairns.com, or visit his site at [w] www.georgecairns.com

Part 1: Burnished metal

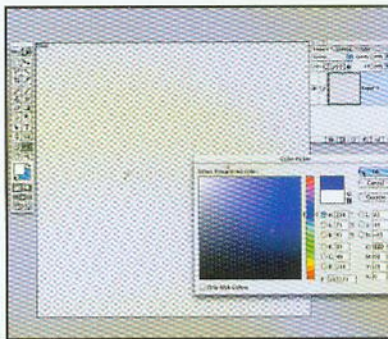
Create the popular burnished metal look that's a favourite texture for a variety of on-screen interfaces...

The power of 2

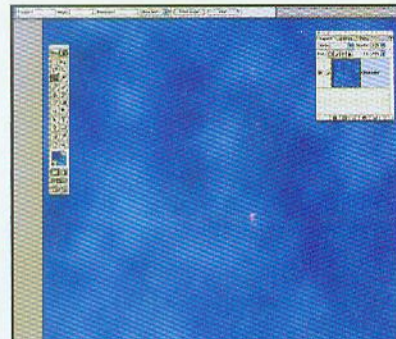
To make a tile-able texture that can be repeated without a noticeable seam, make the image size divisible by the power of 2. This will enable many of the textures you create using the Cloud Filter to tile automatically. The maths involved in creating clouds means the edge of one side of the image will match perfectly with the pixels on the opposite edge, resulting in a seamless join if the texture has to tile on a Web page or 3D model. Examples of Power of 2 image sizes are 512x512 pixels, 1024x1024 pixels and so on.



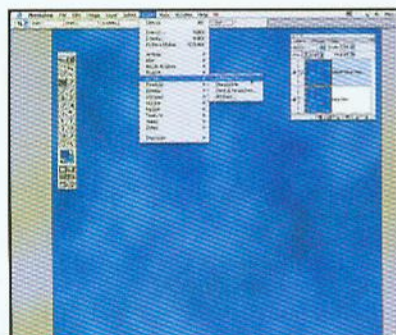
1 Create a new file. Make it a square texture with a maximum image size of 1024x1024 pixels at 72dpi. (Check out the margin note for more information on why it's a good idea to create square textures.)



2 Click on the Foreground Colour icon in the Toolbar and choose a light blue from the colour swatch. Click on the little arrows (or press [X]) to swap to the Background Colour icon. Make that a darker blue.



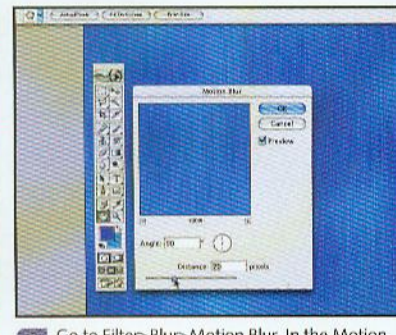
3 From the main menu bar go to Filter>Render>Clouds. This creates a fractal cloud pattern that mixes the foreground and background colours together. Label the layer: Clouds.



4 Duplicate the Cloud layer by dragging its thumbnail onto the Create New Layer icon. (This is good practice because it allows you to experiment with different filter settings without losing the original layer). Go to Filter>Noise.



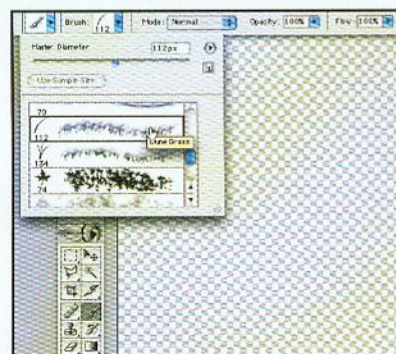
5 Set the Noise level to around 42 per cent. Set its distribution value to Uniform and tick the Monochromatic box. This adds a strong and contrasting noise grain to the texture.



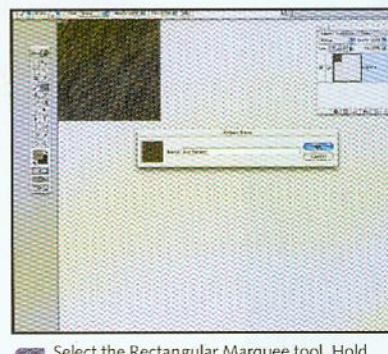
6 Go to Filter>Blur>Motion Blur. In the Motion Blur dialog box set the Blur Angle to 90 degrees and the Distance to around 70 pixels. This gives you that burnished metal look. Fine-tune the colour of your texture by going to Image>Adjustments>Hue/Saturation>Colourise.

Part 2: Fake fur

Photoshop features a quick way to make the fur fly by enabling you to create your own patterns. This technique can also be used to create a field of grass...



1 Select the Grass Dune brush from the Brush Pre-set Picker. Make your foreground and background colours different shades of brown. The brush will mix between them to create wiry looking hairs.



2 Select the Rectangular Marquee tool. Hold down Shift and draw a constrained square. Spray the fur brush into the square, making sure you cover any transparent areas. With the square painted area still selected, go to Edit>Define Pattern. Label the pattern: Fur Pattern.



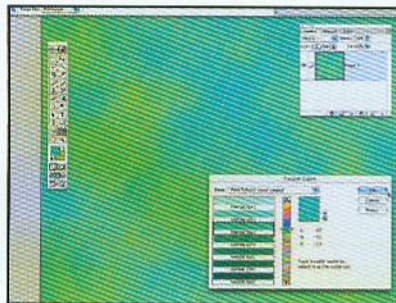
3 Delete the square fur selection. Press Command+A to select the whole layer. Go to Edit>Fill>Pattern. Choose the fur pattern you designed from the Custom Pattern option. Click OK. The whole layer will be filled with fur. Use the brush to spray more fur over any obvious joins in the pattern tiles.

Part 3: Plant cells

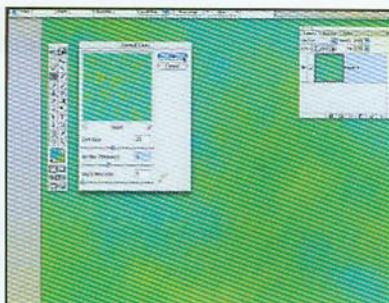
This organic-looking texture could be used as a texture map for a 3D model's alien skin...

Brilliant brushes

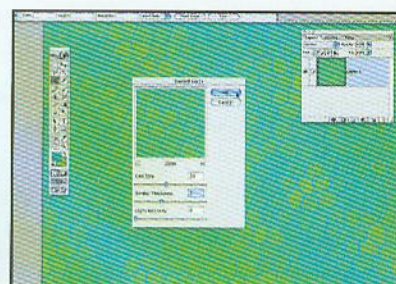
Photoshop enables you to generate huge repeating patterns from small areas (See Part 2 — Fake fur). This is a very quick way of filling a large space. You can also augment your textures by creating unique brushes. Draw the desired shape and colour of the brush to be. Select it with the Rectangular Marquee tool. Go to Edit>Define Brush. Your unique new brush can be found in the Brush Pre-set Picker.



1 Create a new file that's 512x512. (See 'The power of 2' margin note to see why these sizes are the most appropriate.) Set the foreground and background colours to suitably organic-looking greens and blues.



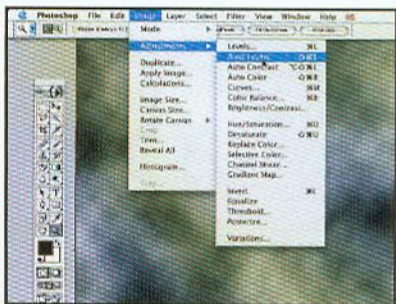
2 Go to Filter>Render>Cloud. This creates a mottled blue/green texture. Because of the maths Photoshop uses to generate fractal clouds, this texture will tile if it's created in a 512x512 sized file.



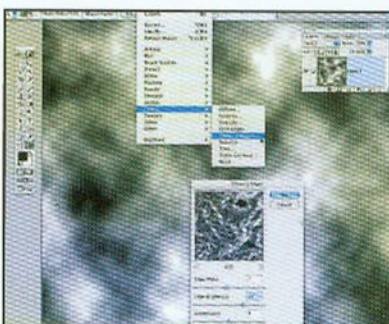
3 Go to Filter>Texture>Stained Glass. Make sure you set the Light Intensity to 0, or you'll get a spotlight effect around the edge of the image. The foreground colour forms the walls of the cells, with the mottled cloud effect creating the chlorophyll-style cell interiors.

Part 4: Clothing fibres

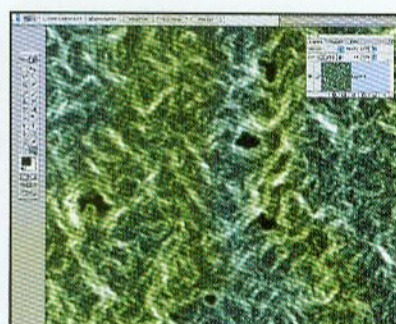
To fake a close-up view of a textile fabric texture, follow these simple steps...



1 Start off by applying the Cloud filter to create the base for the texture. (If the layer is transparent then Photoshop has no pixels to work with.) To increase the contrast between the whites and blacks, go to Image>Adjustments>Auto Levels.



2 Go to Filter>Stylize>Glowing Edges. Adjust the Edge Width, Edge Brightness and Smoothness settings until you can preview a suitably fibrous texture in the Glowing Edges Option box. Click OK.



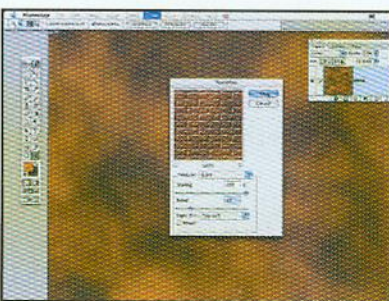
3 To dye your fibres any colour you desire, go to Image>Adjustments>Hue/Saturation>Colourise. Choose a suitable colour by adjusting the Hue slider.

Part 5: Brick

Creating textures shouldn't be like banging your head against a brick wall. Use Texturizer for an easier life...



1 Create a new square file and select an appropriately brick red foreground colour and a darker background colour. Go to Filter>Render>Clouds to fill the layer with a basic texture.



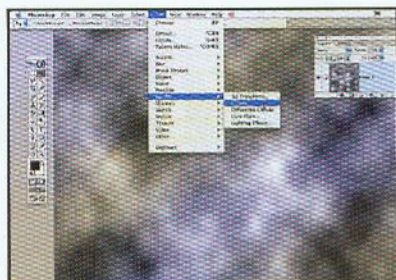
2 Go to Filter>Texture>Texturizer. In the pull-down Texture menu, choose Brick. Adjust the Relief setting to create deeper grooves in the texture. Change the Light Direction setting to Top Left.



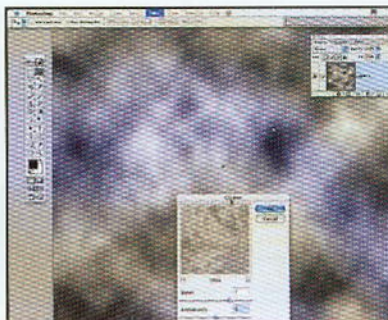
3 Click OK and your brick texture is complete. This Texturizer pushes a simple pattern through the coloured layer to fake a 3D effect. 3D modellers use this technique to create Bump Maps, which give their smooth models the illusion of having a rough textured surface.

Part 6: Tin foil

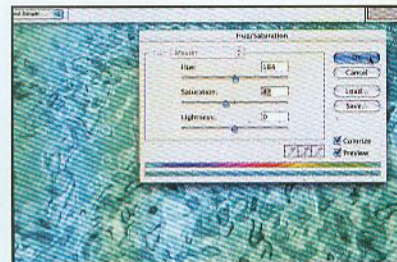
Need a crumpled metallic texture? Get one in seconds using this technique...



1 Click on the little Black and White icon in the Toolbar to re-set the foreground and background colours to black and white. Go to Filter>Render>Clouds to fill the layer. As you'll have noticed by now, clouds form a handy foundation to create many types of textures.



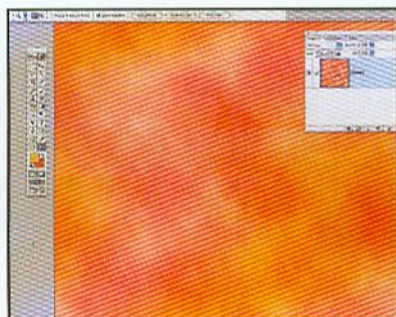
2 Go to Filter>Sketch>Chrome. Experiment with the Detail and Smoothness sliders till you get a suitably metallic look for your texture. When you're happy, click OK.



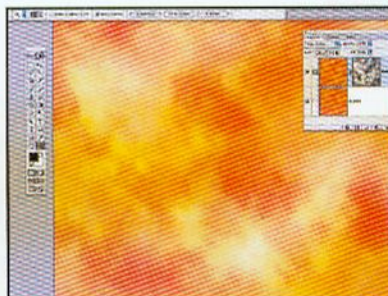
3 To add colour to the texture, go to Image>Adjustments>Hue/Saturation>Colourise. Bump up the Saturation value a tad and move the Hue slider until you get the desired colour. Colourise adjusts the darker parts of the texture but leaves the whites white, making the highlights shine.

Part 7: Fire texture

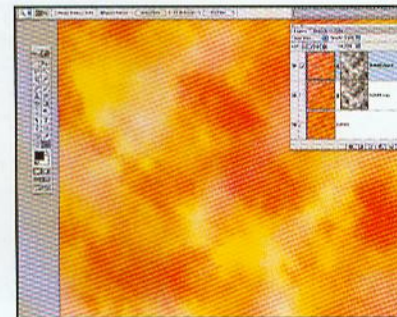
Create an explosive fiery texture using layer blending techniques...



1 Create a cloud texture that mixes yellow and orange. Duplicate the layer. Set the Mode to CMYK (Image>Mode>CMYK Colour). You get a more dramatic layer blend using this mode.



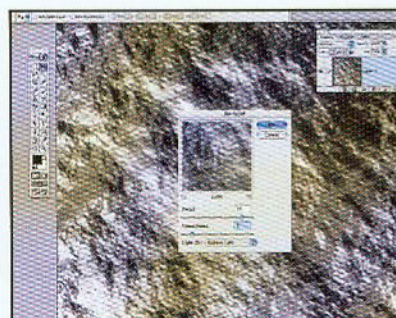
2 On the top layer, set the Layer Blend mode to Colour Dodge. Add a layer mask to the duplicated cloud layer and apply a cloud filter to the mask. This pokes random holes in the main layer so that you can see parts of the original layer beneath.



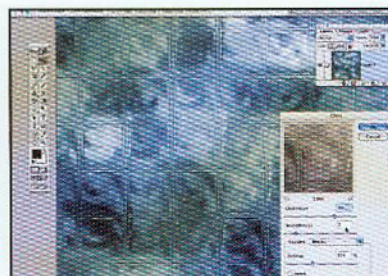
3 Duplicate the copied layer. Set this new layer's Layer Blend mode to Colour Burn. Experiment with the layer's opacity till you get a realistic looking fiery texture. Add a little noise.

Part 8: One-step wonders

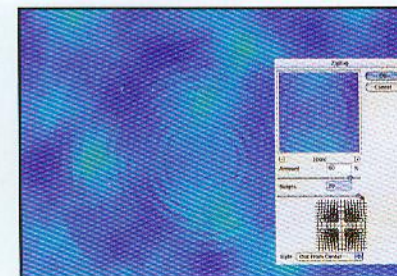
Once you've created your basic fractal cloud foundation, you can generate textures by applying one filter...



1 Create this chipped stone effect by generating clouds, then applying a Bas Relief filter (Filter>Sketch>Bas Relief). Re-apply the filter to create a finer chipped effect (Command+[F]).



2 Knock up this tasteful bathroom tile texture at the click of a button (and a couple of mouse slides). Create your clouds in the usual way, then go to Filter>Distort>Glass. Set the Texture option to Blocks and experiment with the Distortion setting. Colourise the texture.



3 Create a splash with this aquatic ripple texture. Mix light and dark blue coloured clouds together. Then go to Filter>Distort>ZigZag to create concentric rippling rings. Fine-tune the texture by applying a hint of the Ocean Ripple Filter to the image. **cap**



Plug-in power

We review and rate 12 of the latest and greatest *Photoshop* plug-ins currently available...

The world of *Photoshop* plug-ins changes almost daily. A slew of *Photoshop* add-ons, whether artistic or workflow-enhancing additions, are available to the enthusiast or professional user — many for very little cost. (Check out the ten demo plug-ins on this month's cover CD.) In this round-up we look at a selection of the best add-ons available at the time of going to press. It's a varied selection, and the tools showcased here can help you

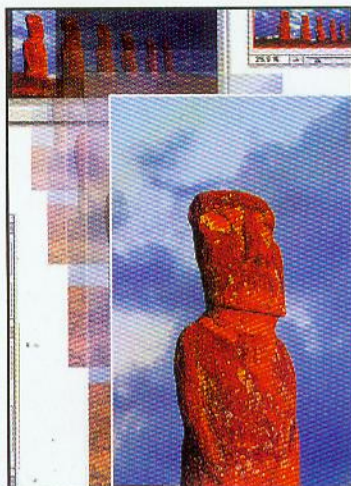
with everything from natural media to colour correction, to creating realistic skies and trees.

As we write this, *Photoshop CS* is yet to fall into our hands, but you can almost guarantee that each of these plug-ins will work with the app — there have been no fundamental changes to the *Photoshop* in this area.

So, whatever your creative discipline, take a look at the 12 plug-ins over the following pages. There's bound to be one that helps you in your day-to-day work.



Expertise provided by Rob Carney, Deputy Editor of *Computer Arts*. [e] robert.carney@futurenet.co.uk



PXL SMARTSCALE

Can you really scale images to a massive 1600 per cent without any loss of quality? Extensis seems to think so...

Price **£149.99** Company **Extensis** Telephone **+44 (0) 1604 636300**
Website **www.extensis.com** System **Mac and PC**

It's a well-known industry fact that designers struggle with resizing documents. It's often a case of losing quality, especially when producing extremely large images from relatively small documents.

Photoshop plug-in supremo Extensis has come up with the latest solution to this problem in the form of *pxl SmartScale*. The idea is that the tool

makes up information in a more intelligent manner than *Photoshop* itself — making your images clearer when scaling them up to 1600 per cent.

The interface is typically Extensis, being clear and extremely easy to comprehend. There aren't many palettes or dialogs — keeping the tool as simple and as easy to use as possible. It's worth mentioning that you can even scale an

image without opening up *Photoshop*. Of course, this method is no alternative to having the original artwork at a large size to begin with, but results are decent.

If you find yourself having to scale up images on a regular basis, at least give this a try.

VERDICT

4/5

PUZZLE PRO 2.0

Transform your images into all sorts of jigsaw puzzles and pieces...

Price **\$49.95** Company **AV Bros** Telephone **+972 5-520 5774**
Website **www.avbros.com** System **Mac and PC**

Imagine being able to make all sorts of puzzle-like images from your regular digital shots. Sounds a little useless, we admit. However, *Puzzle Pro 2.0* from AV Bros is actually a rather nifty and interesting tool, enabling you to fake the look of jigsaw puzzles in an instant, with all sorts of options and parameters to tweak.

Running on Windows and Mac OS X 10.1 and above, the plug-in enables you to specify columns and rows of your puzzle, as well as individually define

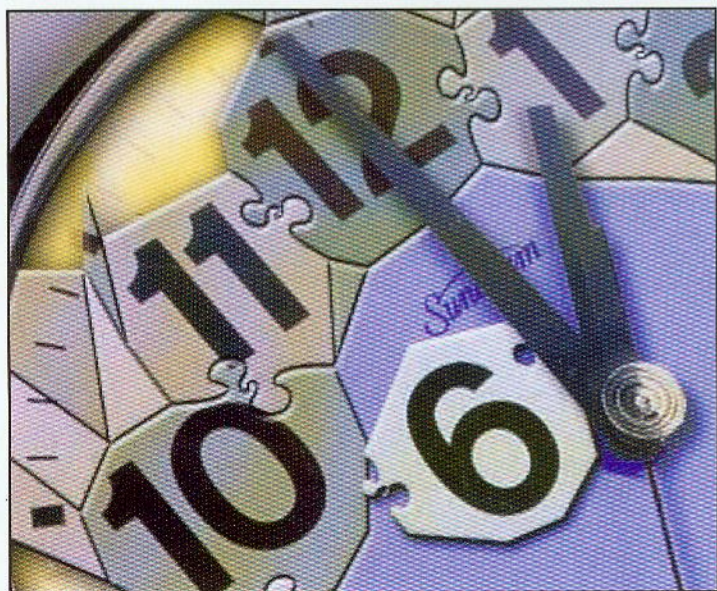
shapes using nodes and a transformation bounding box.

Multiple undos are here, as is the ability to apply individual effects to individual pieces, and you have a wide range of options for defining the type of split between your puzzle pieces.

Puzzle Pro 2.0 is one of those plug-ins that's by no means essential, but is great fun to use.

VERDICT

3.5/5



PHOTO/GRAPHIC EDGES 6.0

Add a variety of edge effects to your images with this brand new offering from Auto FX...

Price **\$149.00** Company **Auto FX** Telephone **+1 205 980 0056**
Website **www.autofx.com** System **Mac and PC**

The latest release of *Photo/Graphic Edges* from Auto FX enables you to create all manner of edge effects in an even shorter amount of time. Previous releases were simply templates bolted onto an interface, enabling you to add edge effects to your graphics. Version 6, however, introduces not only a new interface and more edge effects, but also a new way of applying edges.

The *Edge Brush* is a great new feature, enabling you to literally brush on effects. This provides scope for many more effects and provides a lot

more user control. You can interact with your already applied edge effects, simulating such natural media effects as watercolour.

The whole package includes 10,000 Edges, 1000 Matte Textures, 175 Frames, 230 Effect Brushes and 210 Light Tiles — so for \$149 this is pretty good value.

Photo/Graphic Edges 6 is a big improvement on the previous release, offering much more variety.

VERDICT

4/5

KPT COLLECTION

In this collection, some of the classic *Photoshop* plug-ins return...

Price **£49.99** Company **Corel** Telephone **N/A**
Website **www.corel.co.uk** System **Mac and PC**

Corel has recently announced KPT Collection – a plug-in suite that brings the legendary Kai's PowerTools 5 and 6, as well as KPT Effects, together for the first time. Updated to work on the latest operating systems, these plug-ins are absolutely essential – whatever field you work in.

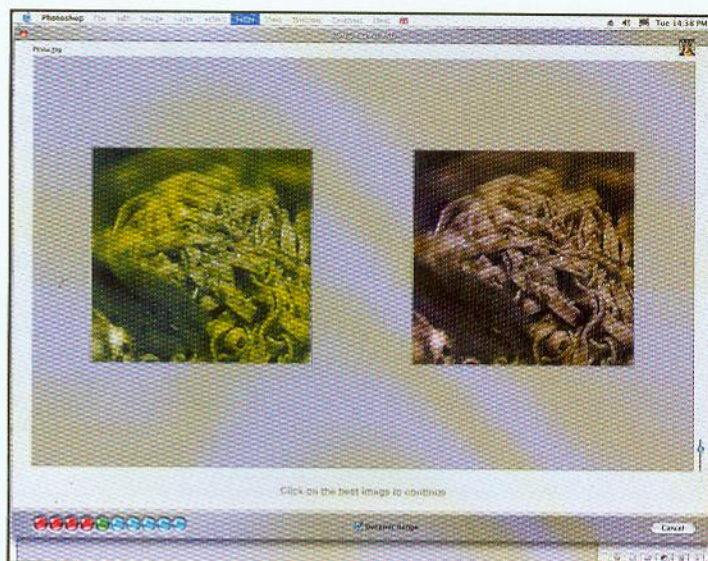
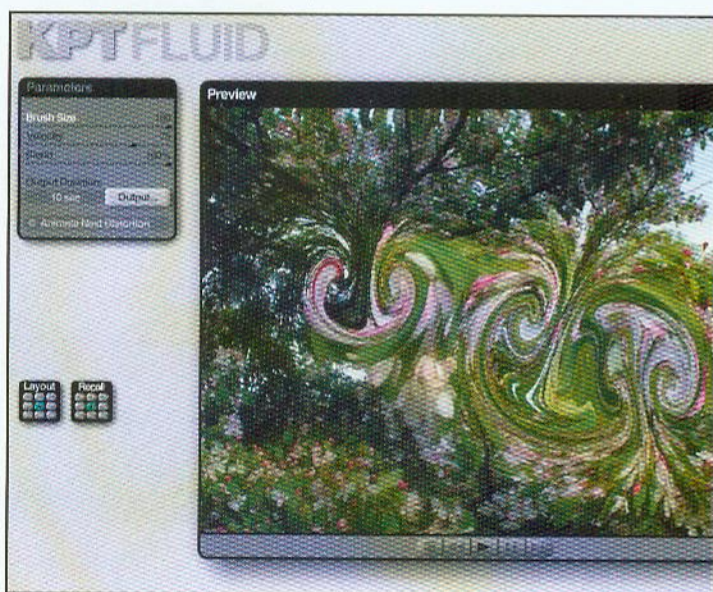
Plug-ins within the collection include KPT Fluid, for treating your image as liquid and stopping it to create a liquified effect; KPT Scatter, for creating particle-based effects; and KPT

ShapeShifter, for creating metallic, glass and other shiny effects.

There are a huge number of plug-ins here for a very reasonable price. Lightning is another one of our favourites (you can guess what it does), as is the classic FraxFlame. Ingrained in *Photoshop* history, it would be a real shame to miss out on this collection for such a cracking price.

VERDICT

5/5



20/20 COLOUR MD

Quickly correct digital shots with this new plug-in from PhotoTune...

Price **\$49.95** Company **PhotoTune** Telephone **+1 530 432 2365**
Website **www.phototune.com** System **Mac and PC**

Photoshop has some great tools for correcting and adjusting colour in digital images, but sometimes the process can be either a) daunting or b) incredibly time-consuming. 20/20 Colour MD is a plug-in that aims to alleviate some of the pain of correcting colours.

The tool works very much like the *Photoshop* Variations tool and, indeed, like an eye test. It enables you to figure out what's wrong with a photo and fix it accordingly using a 15-step process. The plug-in works like a wizard, presenting

two images in each step which have been altered in different ways. You simply choose the best-looking image and continue. And so on.

At the end, you get the chance to fine-tune the image, using some simple brightness, contrast sliders and so on. Overall, 20/20 Colour MD provides a logical and easy way for beginners to correct their digital *Photoshop* images. Great value at under \$50.

VERDICT

4/5

AURORA 2.0

The only *Photoshop* plug-in that gives users true 3D nature effects. Apparently...

Price **\$199** Company **Digital Element** Telephone **+1 510 601 7351**
Website **www.digi-element.com** System **Mac and PC**

Aurora 2.0 is a tool for creating all manner of realistic skies and sky effects directly within *Photoshop* – and has a range of tools that far surpass the old Render Clouds command.

This isn't exactly an easy plug-in to use, and previewing results can prove a little slow. However, if you're patient and willing to learn the interface, it can be very useful indeed.

You have control over stars, clouds, sun, gradient, light beams, water haze and nimbus, each of these having its own individual settings in a tabbed interface.

Results are stunning, and after a little experimentation you'll be able to use some extremely realistic natural effects.

VERDICT

4/5





Price **\$139** Company **Human Software** Telephone **N/A**
Website **www.humansoftware.com** System **Mac and PC**

This plug-in also enables you to create QuickTime/animated GIF warps, distort with envelopes, use multiple layers of distortion grids and plenty more. We're not quite sure whether it's worth the \$139 price tag, but it's still a fun plug-in nevertheless.

VERDICT **3.5/5**

Create beautiful panoramas with ease with this
incredibly cheap plug-in...

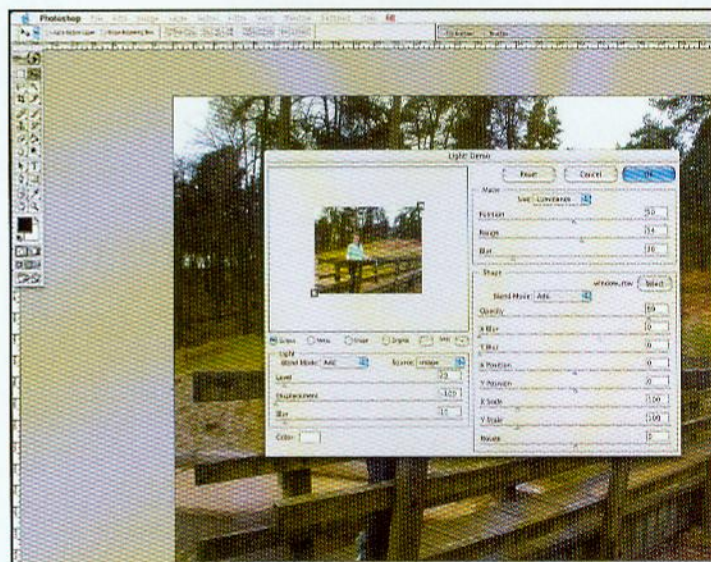
Panotools is a set of plug-ins that enables you to quickly and easily create panoramas. There are five plug-ins in the \$39.95 set: LensFix, Correct, Remap, Adjust and Perspective.

LensFix is a tool for fixing imperfections in shooting, such as barrel and pincushion distortions, vignetting and more. The Correct filter looks simpler to use than LensFix, although Kekus admits this plug-in's tools have been incorporated into 'the more user-friendly' LensFix. Strange.

The Remap tool converts between image projection types. For instance, in a couple of steps, you can remap a QTVR image to a Convex Mirror. Again, very simple, yet pretty powerful.

The Adjust plug-in extracts individual images from already stitched panoramas, and the Perspective tool is great for simulating a change in camera orientation. These tools are great value.

VERDICT **4/5**



With this Digital Film Tools plug-in, you can add dramatic lighting effects to dull images in an instant...

Price **\$75** Company **Digital Film Tools** Telephone **N/A**
Website **www.digitalfilmtools.com** System **Mac and PC**

The aptly named Light! from the guys at Digital Film Tools enables you to simulate all kinds of lighting effects, very quickly indeed. Behind a relatively simple interface lies an extremely powerful tool, giving you a huge amount of control over the lighting of your images.

It's quite simple. You choose a shape from the interface — say, a window shape to simulate light shining through a window onto your image — and then adjust the parameters around this. Because shapes are simply PNG or JPEG

files, you can create your own shapes, expanding the potential of the plug-in.

You can change the effect that the shape has on the image by using transformation handles, as well as a number of sliders – the latter giving you control over opacity, blur and position.

A fantastic 'faking it' plug-in at a bargain price – if you need to simulate natural lighting effects in a hurry then look no further.

VERDICT **4.5/5**

VERDANT 1.0

Place realistic trees, shrubs and bushes in your *Photoshop* images...

Price \$179 Company Digital Element Telephone +1 510 601 7351
Website www.digi-element.com System Mac and PC

The second plug-in on offer from Digital Element goes for a more down-to-earth approach — literally. Where as Aurora deals with skies and water, Verdant deals with trees and shrubs. Not everyone has the skill to create a realistic tree in a 3D app and composite it in *Photoshop*. And Verdant is here so you don't have to.

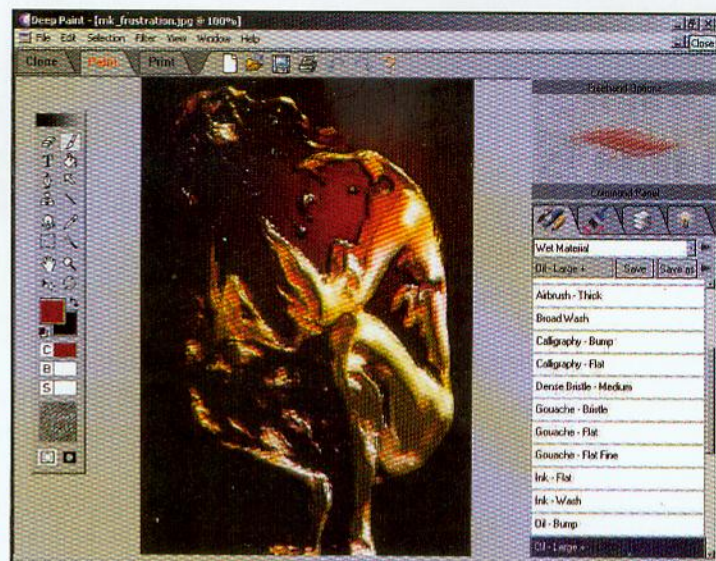
With Verdant, you get 35 plants in one plug-in, all of which can be edited with a variety of parameters — branches, height, length of leaves and so on can be

altered with ease. Like Aurora (reviewed on page 91) though, it's a little slow, and results can look bolted-on if you don't know what you're doing. Still, it's a cheap and quick alternative to a 3D app and an hour's compositing.

You can even join a plant-of-the-month club for \$99, giving you a new plant every month — depending how much you like trees, we suppose.

VERDICT

3.5/5



DEEP PAINT 2.0

Expand on *Photoshop*'s natural-media toolset with the latest release of this ace plug-in...

Price \$249 Company Right Hemisphere Telephone +1 925 242 2537
Website www.righthemisphere.com System PC only

Before *Photoshop 7* came along, there was one plug-in that everyone looked to for natural media brushes and effects — Deep Paint from Right Hemisphere. But now *Photoshop* has this kind of feature set built in, is there room for Deep Paint?

Well, in short, very much so. The latest version of the plug-in adds some truly stunning tools to *Photoshop*, including many more natural media brushes, some excellent tools for adding dynamic 3D lighting, and new spline-based editing tools.

The application runs as a standalone tool or *Photoshop* plug-in, adding to its value. And the interface is truly easy to use, being similar to *Photoshop* in its ways. Deep Paint is a gem of a plug-in, and is almost certainly the closest you'll get to *Painter* within *Photoshop*. However, at nearly \$250, it's a little expensive — if it were half the price, it would be a must buy product for the *Photoshop* digital artist.

VERDICT

4/5

DFINE 1.0

With this recent plug-in from nik multimedia, you can reduce noise without destroying other details in your digital shots...

Price £115.94 Company nik multimedia Telephone N/A
Website www.nikmultimedia.com System Mac and PC

The market for *Photoshop* plug-ins looks to be changing a little — mainly thanks to the boom in digital camera sales. Image enhancement is a hot topic at the moment, with many companies producing plug-ins to make this kind of work easier in *Photoshop*.

Dfine 1.0 is a plug-in that concentrates on refining digitally-shot images without destroying detail. From the usually

excellent nik multimedia, Dfine looks like being one of the better efforts out there, aiming to reduce noise so often found in digital images.

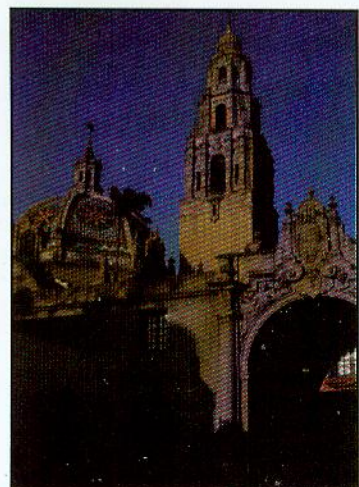
The interface is typically nik — extremely simple, yet offering you a good amount of control. Dfine includes tools that work with specific camera profiles to reduce noise in images more naturally, and has some extremely nice tools for

selectively applying noise reduction using brush-based tools. Large previews make the interface easy to work with and we can't grumble at all about the results.

Overall, a great effort from nik, and a plug-in that should please a lot of digital photographers.

VERDICT

4/5



COMPUTER arts projects INTERACTIVE

On the CD

Your guide to the free extras given away on this issue's cover disc...

DEMO PLUG-IN

Eye Candy 4000

Packed with nice-looking filters, the latest version of Eye Candy offers even better productivity than in previous editions...

You'll find lots of *Photoshop* plug-ins and *Photoshop*-compatible programs prowling the World Wide Web. Some are geared towards specific areas of image manipulation and others offer a wealth of features to aid any user's toolkit. Eye Candy 4000 by Alien Skin Software, [w] www.alienskin.com, is a prime example of the latter. Having been around for some time — with Black Box v2, Eye Candy v3 and now Eye Candy 4000 — Alien Skin has repeatedly

managed to make improvements to this plug-in.

Eye Candy 4000 offers a wealth of features, including Anti-matter, Beveling, Chrome, Corona, Fire, Fur, Glass, Shadowing, Gradient Glows and much more. One massive improvement to this latest version is that it's now geared towards better productivity. Parameters set at one resolution are now applied globally throughout other resolutions. This means that work doesn't have to be re-done for different image sizes.

While there are other plug-ins out there that may provide more bells and whistles, Eye Candy 4000 gives you fantastic filters that can be used on an everyday basis.



1 As you'll see from this demo, the plug-in's interface has remained largely the same, although some filters have been merged into one. The same options are preserved, just in a different form.



2 The Colour Gradient Editor, which is part of the Fire Filter, is an example of an addition to this latest version of the plug-in. Creating gradients is as simple as selecting the colours you want and then placing them.

DEMO PLUG-IN

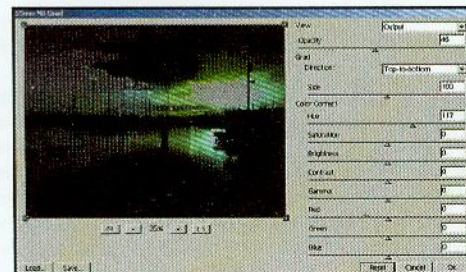
55MM

A *Photoshop* plug-in that offers a whole host of easy-to-use filters...

This plug-in from Digital Film Tools, [w] www.digitalfilmtools.com, is a collection of 25 filters offering a combination of some of the most widely used commands in *Photoshop*, in many cases making them accessible from a unified window.

It enables quick image manipulation by combining a lot of the functionality of *Photoshop* into single windows, thereby streamlining the image manipulation workflow. It also produces great results. This plug-in offers the following filters:

- Mist
- Fog
- Skin Smoother
- Colour Grad
- ND Grad
- Tint
- Infra-Red
- Bleach Bypass
- Glow
- Polariser
- Night Vision
- Faux Film
- Selective Soft Focus
- Defocus
- Warm/Cool
- Fluorescent
- Black & White
- Dual Tint
- Low Contrast
- Star
- Colour Correct
- Grain
- Matte Generator
- Selective Colour
- Correct
- Temperature



55MM is an essential collection of filters for those wishing to manipulate *Photoshop* images faster.

VIDEO WALKTHROUGH

Faking It video tutorial

Turn up the heat with our guide to fake fire...

Courtesy of PSXtras, [w] www.psxtras.com, this video tutorial has been created specially for *Computer Arts Projects* and offers a complete walkthrough of how to create this fake fire-breather image. Learn the principles involved in creating this effect from a single photograph of the faker holding a

stick, include masking, adjustment layers, Pen tool work, colour correction and compositing.

This video tutorial is geared towards helping you understand the tools fully and see how they can be used for countless other projects. To quote the words of the video tutorial author, "The sky's the limit".



1 The tutorial begins by showing you the concept and how to go about creating the image in as realistic a way as possible. "I would have to say my goal was to fool my family and friends, but I was not about to start spouting fire for fun," says our man at PSXtras.



2 He starts by using a primary photograph of himself blowing out water above a stick. The importance of calculating correct lighting angles is discussed, and you're shown how to use masks to block out unnecessary areas of the image.



3 In preparation for fire being placed on the stick, you're shown how to create glow effects to highlight the fire's reflection. These subtle elements have to be taken into account when faking realism.

DEMOS

10 Photoshop plug-ins

We've mentioned two of them already, but here's a full list of the plug-ins on this month's CD...

DEMO plug-ins

55mm (Dual)

Simulate popular glass camera filters, specialised lenses, optical lab processes, film grain and exacting colour correction — all in a controlled digital environment with either 8 or 16 bits-per-channel processing.

Eye Candy 4000 (Dual)

Eye Candy 4000 is a collection of 23 filters that will strengthen anyone's creativity. It combines practical effects like shadows, bevels and glows with stunning results like chrome, fire, smoke and wood.

Glitterato (Dual)

Stars and nebulae with lots of realism and little fuss.

Flood (Dual)

Inundate the landscape and submerge your friends. Create realistic pseudo-3D watery reflections with control over waves, ripples and perspective.

Light (Dual)

This *Photoshop* filter adds light to the scene just as if you were adding a light at the time of shooting.

Lunar Cell (Dual)

Create planets instantly. Fractal, reality-based, or just strange worlds are yours in seconds.

Melancholytron (Dual)

Make pictures moody, nostalgic and sad.

FREE plug-ins

AlphaWorks (Dual)

Twenty individual *Photoshop*-compatible plug-in filters for producing various transparency effects.

ColourWorks (Dual)

Twenty more *Photoshop* filters for producing a variety of colour modification effects.

Ghost (Dual)

Create a smoked-glass look by changing brightness to transparency.

BOOK REVIEWS

PHOTOSHOP 7 BIBLE – PROFESSIONAL EDITION

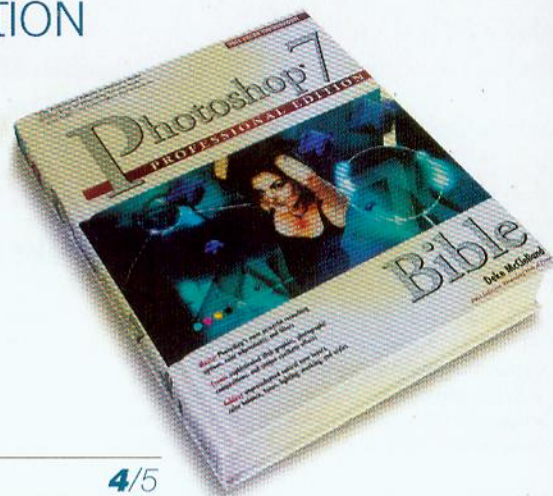
Author **Deke McClelland** Publisher **Wiley** Price **£44.50** ISBN **0-7645-1993-X**

Now in its 13th issue, the *Photoshop 7 Bible – Professional Edition*, is a hardback, slimmed-down alternative to the standard Bible, with a focus on *Photoshop*'s more difficult tools and techniques. The 600 pages contain a huge range of techniques for solving just about any problem you might encounter in *Photoshop*. Production values are high, with the emphasis on making the point easy to follow rather than looking inspiring.

The text is well organised and also has handy margin icons to warn of cross-references, new features and possible pitfalls. The opening chapters

deal with painting, retouching and history, before moving on to deal with masking, blending and layers. Next up are corrective techniques like levels and curves, and the final section deals with automation and the Web.

Areas given special treatment, or parts that are exclusive to the Professional Edition, include such rarefied topics as actions, batch processing and custom filters. The tools and techniques are explained in depth with examples of their use rather than a series of tutorials. This is a valuable reference tool, but one that is probably most useful for the serious user.



VERDICT

4/5

HOW TO CHEAT IN PHOTOSHOP: THE ART OF CREATING PHOTOREALISTIC MONTAGES

Author **Steve Caplin** Publisher **Focal Press**
Price **£24.99** ISBN **0-240-51702-4**

This book gives an overview of the tricks and techniques Steve Caplin employs to produce his composite images and illustrations. Each technique is illustrated by studying the author's past works for such high-profile clients as *The Guardian* and Channel 4. There's useful material here, particularly for beginners, and the book is easy to read. That said, the tutorials lack depth and professional polish.

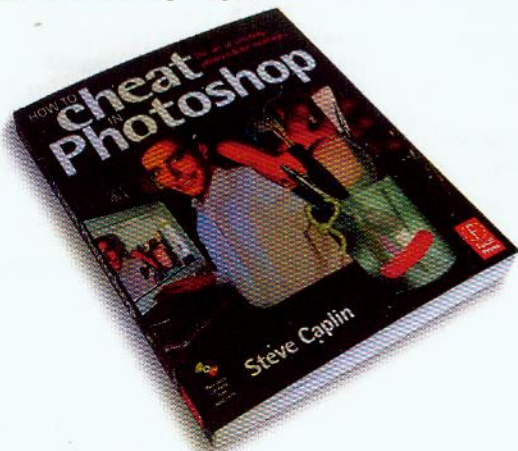
The book begins with a basic introduction to masking and then moves on to deal with issues surrounding the effective production of montage images.

This means matching skin colours, adding shadows, faking surface textures and swapping heads. The main stumbling block is the stylistic element of each of the examples used: Steve Caplin has a certain style, and following the examples will lead you to reproduce that style.

The chatty style makes it easy to read, and the accompanying CD has free images, demos and some useful video tutorials. However, there's little of interest for those familiar with *Photoshop*.

VERDICT

3/5



PHOTOSHOP RESTORATION & RETOUCHING

Author **Katrin Eismann** Publisher **New Riders**
Price **£38.99** ISBN **0-7357-1350-2**

Katrin Eismann has produced an excellent guide to the intricate art of photographic restoration and recovery. What could be a complicated and somewhat tedious subject is made easy to follow while maintaining the kind of depth needed to make this a worthwhile project. A certain amount of *Photoshop* competence is assumed.

The first section deals with adjustments to global variables like contrast, colour and tone to answer problems associated with the ageing of prints or improving poor photography. Next comes repairing damage like scratches, mould and tears. The final

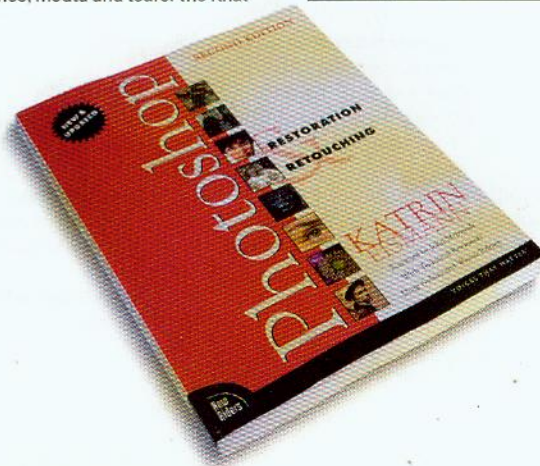
section looks at how to add to images, even stretching to fashion retouching.

Each chapter is split into a series of short tutorials designed to give you the skills to go away and work on your own. Given the short shelf life of photographic prints, made all the shorter by the advent of digital cameras, this book could become compulsory reading.

The single criticism is that images for the tutorials have not been placed on an accompanying CD and must instead be downloaded from the Web.

VERDICT

4.5/5



50 FAST PHOTOSHOP TECHNIQUES

Author **Gregory Georges** Publisher **Wiley**
Price **£25.95** ISBN 0-7645-3672-9

A reasonable book with a well-made CD-ROM, delivering a variety of techniques designed to enhance your digital photography. The value of the techniques is somewhat mixed but the tutorials are clear and efficient, although the emphasis on speed has led to what feels like a reliance on *Photoshop's* automatic functions.

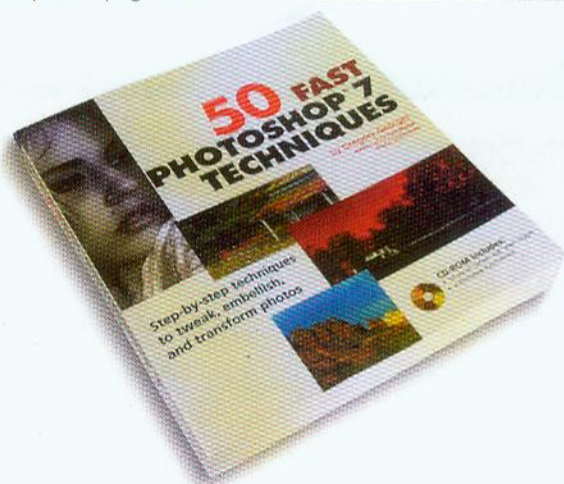
The first chapter deals well with basic *Photoshop* skills, such as preference settings, automation, basic colour correction. Subsequently, the author moves on to cover techniques relating to black and white images, montages, fine art techniques and plug-ins. Each

example comes with before and after images on the CD-ROM and the techniques are well illustrated.

On the whole, there's enough information here to keep the digital photographer busy and perhaps whet the appetite for more in-depth study. It's also useful to be supplied with a working *Photoshop* demo. However, there are places where you feel the techniques didn't warrant inclusion, particularly where discussing plug-ins and online printing services.

VERDICT

3.5/5



PHOTOSHOP 7.0 A TO Z

Author **Peter Bargh** Publisher **Focal Press**
Price **£14.08** ISBN 0-240-51912-4

The *Photoshop 7.0 A to Z* gives a relatively comprehensive tour of *Photoshop's* features and capabilities with quality illustrations and clear explanation. This isn't a book of problem-solving techniques, but rather a friendlier version of the *Photoshop* manual detailing how to find functions and what they do.

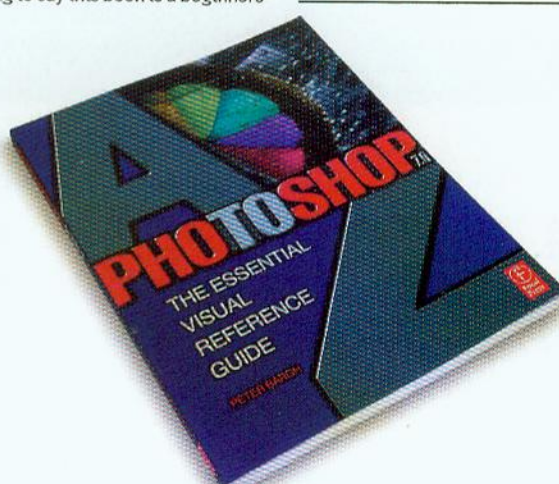
If you have ever asked yourself, "What exactly is a blend mode and why would I want to use one?" then this book will be very useful to you. However, if you have a blend-mode-specific problem, then look elsewhere. It's tempting to say this book is a beginners-

only title, but that would be a little unfair because this type of guide, while not a professional bible, will certainly fill gaps in most users' knowledge.

Photoshop beginners will certainly have the most to gain from this book and could happily use it as a first point of reference without feeling even slightly intimidated. Right down to the appendices, this title is well thought-out. Its value as a reference for more experienced users also stems from its lack of professional pretence.

VERDICT

4/5



ADVANCED DIGITAL PHOTOGRAPHY

Author **Tom Ang** Publisher **Mitchell Beazley**
Price **£20** ISBN 1-84000-683-8

There is an urgent need," the flyleaf of Tom Ang's *Advanced Digital Photography* tells us, "for a book that takes amateur photographers beyond the basics." True enough, but we're not sure that this is it.

There's certainly a wide range of topics covered here, from imaging principles, including scanning and colour theory, through to fairly complex image manipulation and a brief section on outputting.

As often happens, though, nitty-gritty, step-by-step explanation has been sacrificed for the sake of the glossy, large-format approach. There are few

detailed walkthroughs; most of the useful information lurks in the run-on body copy. Ang also devotes perhaps too much space to rather gimmicky filter techniques.

Advanced Digital Photography is not a fluff book by any means; Ang knows his stuff, and has no illusions about the limitations of digital imaging. But it can't compare to the sheer detail of a book such as Barry Haynes' *Photoshop 7 Artistry*, which covers much the same territory plus a whole lot more.

VERDICT

3/5

